```
OM nucleic -
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                               Sequence:
                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                          Searched:
                                                                                                                                                                                                                                                                                                                 Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nucleic search, using sw model
                                                                                                                                                                                                                             IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                           US-10-046-955-7
310
1 aaatgcgataagtaatgtga.....ggaatacccgctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                        August 22,
                                                                                                                                                                                        21979536 seqs, 10817449327 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                          2002, 00:39:28;
                                                                                                                                                                                                                                                                                                                                                                            Search time 8184.59 Seconds
(without alignments)
819.445 Million cell updates/sec
                                                                                                                                                   43959072
```

```
Database
                                                                                                                                                                                                                                                                                                                                                  Pending_Patents_NA_Main:*
cgn2_6/ptcdata/1/pna/US082_COMB.seq: *
cgn2_6/ptcdata/1/pna/US082_COMB.seq: *
cgn2_6/ptcdata/1/pna/US084_COMB.seq: *
cgn2_6/ptcdata/1/pna/US085_COMB.seq: *
cgn2_6/ptcdata/1/pna/US085_COMB.seq: *
cgn2_6/ptcdata/1/pna/US086_COMB.seq: *
cgn2_6/ptcdata/1/pna/US086_COMB.seq: *
cgn2_6/ptcdata/1/pna/US086_COMB.seq: *
cgn2_6/ptcdata/1/pna/US089_COMB.seq: *
cgn2_6/ptcdata/1/pna/US089_COMB.seq: *
cgn2_6/ptcdata/1/pna/US099_COMB.seq: *
cgn2_6/ptcdata/1/pna/US099_COMB.seq: *
cgn2_6/ptcdata/1/pna/US099_COMB.seq: *
cgn2_6/ptcdata/1/pna/US095A_COMB.seq: *
cgn2_6/ptcdata/1/pna/US096C_COMB.seq: *
cgn2_6/ptcdata/1/pna/US096C_COMB.seq: *
cgn2_6/ptcdata/1/pna/US097A_COMB.seq: *
cgn2_6/ptcdata/1/pna/US099B_COMB.seq: *
cgn2_6/ptcdata/1/pna/US099C_COMB.seq: *
cgn2_6/ptcdata/1/pna/US099C_COMB.seq: *
cgn2_6/ptcdata/1/pna/US090C_COMB.seq: *
cgn2_6/ptcdata/1/pna/US000C_COMB.seq: *
cgn2_6/ptcdata/1/pn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /cgn2_6/ptodata/1/pna/US07_COMB.seq:*
/cgn2_6/ptodata/1/pna/US080_COMB.seq:*
/cgn2_6/ptodata/1/pna/US081_COMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /cgn2_6/ptodata/1/pna/US06_COMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2_6/ptodata/1/pna/PCTUS_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     _COMB.seq: *
```

```
/cgn2_6/ptodata/1/pna/US6012_COMB.seq:
/cgn2_6/ptodata/1/pna/US6012_COMB.seq:
/cgn2_6/ptodata/1/pna/US6013_COMB.seq:
/cgn2_6/ptodata/1/pna/US6013_COMB.seq:
/cgn2_6/ptodata/1/pna/US6013_COMB.seq:
/cgn2_6/ptodata/1/pna/US6015_COMB.seq:
/cgn2_6/ptodata/1/pna/US6015_COMB.seq:
/cgn2_6/ptodata/1/pna/US6015_COMB.seq:
/cgn2_6/ptodata/1/pna/US6018_COMB.seq:
/cgn2_6/ptodata/1/pna/US6019_COMB.seq:
/cgn2_6/ptodata/1/pna/US6019_COMB.seq:
/cgn2_6/ptodata/1/pna/US6012_COMB.seq:
/cgn2_6/ptodata/1/pna/US6022_COMB.seq:
/cgn2_6/ptodata/1/pna/US6022_COMB.seq:
/cgn2_6/ptodata/1/pna/US6022_COMB.seq:
/cgn2_6/ptodata/1/pna/US6022_COMB.seq:
/cgn2_6/ptodata/1/pna/US6023_COMB.seq:
/cgn2_6/ptodata/1/pna/US6025_COMB.seq:
/cgn2_6/ptodata/1/pna/US6026_COMB.seq:
/cgn2_6/ptodata/1/pna/US6029_COMB.seq:
/cgn2_6/ptodata/1/pna/US6030_COMB.seq:
/cgn2_6/ptodata/1/pna/US6031_COMB.seq:
/cgn2_6/ptodata/1/pna/US6031_COMB.seq:
/cgn2_6/ptodata/1/pna/US6031_COMB.seq:
/cgn2_6/ptodata/1/pna/US6031_COMB.seq:
/cgn2_6/ptodata/1/pna/US6031_COMB.seq:
/cgn2_6/ptodata/1/pna/US6031_COMB.seq:
/cgn2_6/ptodata/1/pna/US6031_COMB.seq:
/cgn2_6/ptodata/1/pna/US6031_COMB.seq:
/cgn2_6/ptodata/1/pna/US6035_COMB.seq:
/cgn2_6/ptodata/1/pna/US6035_COMB.seq:
/cgn2_6/ptodata/1/pna/US6035_COMB.seq:
/cgn2_6/ptodata/1/pna/US6035_COMB.seq:
/cgn2_6/ptodata/1/pna/US6035_COMB.seq:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /cgn2_6/ptodata/1/pna/US6005_COMB.seq:*
/cgn2_6/ptodata/1/pna/US6006_COMB.seq:*
/cgn2_6/ptodata/1/pna/US6007_COMB.seq:*
/cgn2_6/ptodata/1/pna/US6008_COMB.seq:*
/cgn2_6/ptodata/1/pna/US6009_COMB.seq:*
```

score greater t and is derived is the number of results predicted by chance to have a ater than or equal to the score of the result being printed, rived by analysis of the total score distribution.

SUMMARIES

31	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	80	7	6	տ	4	w	2	1	Result No.
124.4	126.6	126.6	127.2	131.4	136	136	136.4	138	139	140.2	141.8	163.8	170.8	174.2	177.8	179.2	180.4	183.2	185	186.6	187.6	194.4	194.4	199	240.2	249.8	293.8	302.8	310	Score
40.3	40.8	40.8	41.0	42.4	43.9	43.9	44.0	44.5	44.8	45.2	45.7	52.8	55.1	56.2	57.4	57.8	58.2	59.1	59.7	60.2	60.5	62.7	62.7	64.2	77.5	80.6	94.8	97.7	100.0	Query Match I
556	556	556	676	364	617	365	597	7997																						Length [
13	14		22	18	_	18	22				16	_	22	18	22	36	13	13	_	13	13	36	36	22	18	13	22	36	18	DB
US-09-423-233-28 US-08-905-314-23	7	PCT-US99-04251-7	US-09-580-797-5	US-09-423-233-2	PCT-US98-25210-2	US-09-423-233-3	US-09-580-797-35	US-60-082-300-11599	PCT-US98-25210-1	US-09-580-797-37	US-09-241-427-3	PCT-US98-25210-3	US-09-580-797-10	US-09-481-293-32	US-09-580-797-11	US-09-961-755A-6	-314-	US-08-905-314-21	PCT-US98-25210-4	US-08-905-314-19	US-08-905-314-22	US-09-961-755A-8	-09-961-755A	-09-580-7	-09	US-08-905-314-24	US-09-580-797-12	US-09-961-755A-7	US-09-423-233-7	ID
Sequence 28, Appl Sequence 23, Appl	7,	7, ,	'n	'n	2	Sequence 3, Appli	Sequence 35, Appl	Sequence 11599, A	,	37,	Sequence 3, Appli	3, 2	10,	32,	11,	6,	20,	e 21	, A	19,	22,	œ	5,	28,	6, -	24,	12	Sequence 7, Appli	Sequence 7, Appli	Description

/cgn2_6/ptodata/1/pna/US6004_COMB.

```
Sequence 7. Application US/09423233

Sequence 7. Application US/09423233

GENERAL INFORMATION:
APPLICANT: The Government of the United States of America as TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Specifit Pille OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 03063-0341WP

CURRENT APPLICATION NUMBER: US/09/423,233

CURRENT FILING DATE: 2000-06-27

NUMBER OF SEQ ID NOS: 61

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 7

LENGTH: 310
RESULT 2
US-09-961-755A-7
; Sequence 7, Application US/09961755A
; GENERAL INFORMATION:
; APPLICANT: Beck, Jim
; APPLICANT: Barnett, Jason
                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                        Вρ
                                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; TYPE: DNA
; ORGANISM: Fusarium moniliforme
US-09-423-233-7
                                                                                                                               õ
                                                                                                                                                              В
                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Sim
Matches 310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                      301
                                                                                                                                                               241
                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                             _
                                                                                                                                                                                                                                                                                                                                                                                                        ٢
                                                                                                           1 ctgaacttaa 310
||||||||||
1 ctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              123.6
123.4
123.2
123.2
122
122
122
122
121.8
121.8
121.6
120.4
                                                                                                                                                             ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                    cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                           aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                           gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgccaactggtacgcggcgc
                                                                                                                                                                                                                                                                                                                                        ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                 gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcggcgc
                                                                                                                                                                                                                                                                                                                          ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                            aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                 h 100.0%; Score 310; DB 18; Similarity 100.0%; Pred. No. 9e-91; 10; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              38.88.88
8.88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              700
595
608
626
674
627
627
569
558
552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22 US-09-580-797-30

22 US-09-580-797-34

22 US-09-580-797-38

22 US-09-371-749-38

23 US-09-371-749-37

24 US-09-423-233-5

25 US-09-481-293-28

26 US-09-481-293-28

27 US-09-580-797-36

28 US-09-646-508-2

29 US-09-646-508-2

20 US-09-580-797-36

20 US-09-404-520-17184

22 US-09-404-520-17184

23 US-09-404-520-17184

24 US-09-580-797-36

25 US-60-132-861-10156
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 5, Appli
Sequence 17184, A
Sequence 36, Appl
Sequence 10156, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 30, Appl
Sequence 34, Appl
Sequence 38, Appl
Sequence 38, Appl
Sequence 5, Appli
Sequence 5, Appli
Sequence 27, Appl
Sequence 28, Appl
Sequence 27, Appli
Sequence 29, Appli
Sequence 39, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Species
                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                              300
                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

```
δÃ
      밁
                                                                                                                                             ; ORGANISM: Fusarium US-09-580-797-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-580-797-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-961-755A-7
                                                                                                                                                                                                                                            Sequence 12, Application US/09580797

GENERAL INFORMATION:

APPLICANT: Iven, Peter C.

APPLICANT: Hinrichs, Steven H.

APPLICANT: Henry, Travis

APPLICANT: Horrion: Materials and Methods for Molecular

TITLE OF INVENTION: Materials and Methods for Molecular

TITLE OF INVENTION: Detection of Clinically Relevant Pathogenic Fungal Species

FILE REFERENCE: UNNC 63149

CURRENT APPLICATION NUMBER: US/09/580,797

CURRENT FILING DATE: 200-05-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: Detection of Fusarium Species infecting TITLE OF INVENTION: Polymerase Chain Reaction FILE REFERENCE: 60055
CURRENT APPLICATION NUMBER: US/09/961,755A
CURRENT FILING DATE: 2001-09-24
NUMBER OF SEQ ID NOS: 24
SOFTWARE: PatentIn version 3.0
SEQ ID NO 7
                                                                                                                                                                                       NUMBER OF SEQ ID NOS:
SOFTWARE: FastSEQ for
SEQ ID NO 12
LENGTH: 637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 99...
Matches 304; Conservative
                                                                                                                                                                           TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
ORGANISM: Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301 ctgaac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   229
                                                                  Local Similarity
nes 295; Conserv
                1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               l aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |||||||
|ctgaac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcggcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      306
                                                                Conservative
                                                                                                                                                           monilliformes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          proliferatum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97.78;
                                                                                                                                                                                                                    2000-05-30
39
Windows Version
                                                                               94.88;
                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                             Score 293.8; DB 2
Pred. No. 2.4e-85;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 302.8; DB : Pred. No. 2.5e-88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 36;
                                                                                          22;
                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Corn Using
                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-905-314-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 24, Application US/08905314 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                   TELEFAX: (919) 541-8689
INFORMATION FOR SEQ ID NO: :
SEQUENCE CHARACTERISTICS:
LENGTH: 561 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: Welgs, J. Timothy
REGISTRATION NUMBER: 38,241
REFERENCE/DOCKET NUMBER: CGC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (919) 541-5587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: DETECTION TITLE OF INVENTION: USING THE NUMBER OF SEQUENCES: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                   MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
             FEATURE:
                                                                               FEATURE:
                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                           LOCATION: 31..181 OTHER INFORMATION:
                                                                                                                                                         OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Novartis Corporation Patent Department STREET: 3054 Cornwallis Road CITY: Research Triangle Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                              NAME/KEY: misc_ fe.
LOCATION: 182..338
                                                                                                                                                                                                                                                                                                                   TYPE: nucleic
STRANDEDNESS:
                             OTHER INFORMATION:
                                                                                                                            NAME/KEY: misc_feature
                                                                                                                                                                                                                                         INDIVIDUAL ISOLATE:
                                                                                                                                                                                                                                                       STRAIN:
                                                                                                                                                                                                                                                                                                      TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER:
 NAME/KEY:
                                                                                                                                                                                                         NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcggcgc 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cccgggtttggtgttggggatcggcgagcccttgcggcaagccggccccgaaatctagtg 520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcggcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20779-2257
                                                                                                                                                                                                                                                                                                                                  nucleic acid
                                                                                                                                                                                                                                                    Fusarium avenaceum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Beck, James J
                                                                                                                                                                                        misc_ feature
1..30
                                                                                                                                                                                                                                                                                                      linear
misc_feature
                                                                                                                                                                                                                                                                                     DNA (genomic)
                                                                                                                                                                                                                                                                                                                  single
                                                             feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DETECTION OF WHEAT FUNGAL PATHOGENS USING THE POLYMERASE CHAIN REACTION
                                                                                                                                                         /note= "3' end
rRNA gene"
                               /note-
                                                                                             /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 us/08/905,314
                                                                                                                                                                                                                                         64452 and R-4045 (consensus sequence)
                                                                                                                                                                                                                                                                                                                                                                                      24:
                               "5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1944
                                                                                                                                                                             of small
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                460
```

```
. NAME/KEY: misc_feature
; LOCATION: 505..561
OTHER INFORMATION: /note="5';
OTHER INFORMATION: rRNA gene"
US-08-905-314-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                            Ş
                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                         В
                                                                                                                     DЬ
                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-423-233-6
                                                                                                                                                                                                                                                        ; ORGANISM: Fusarium solani
US-09-423-233-6
                                                                                                                                                                                                                                                                                                                                                                                         Sequence 6, Application US/09423233
GENERAL INFORMATION:
APPLICANT: The Government of the United States of America as TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus:
TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 03063-0:41WP
                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 6
LENGTH: 319
TYPE: DNA
                                                                                                                                                                             Query Match
Best Local Similarity
Matches 277; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 285;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/423,233
CURRENT FILING DATE: 2000-06-27
NUMBER OF SEQ ID NOS: 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LOCATION: 339..504
OTHER INFORMATION:
FEATURE:
   123
                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                           63
                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                   l aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
               cccgggtttggtgttggggatcggcaagcccttgcggc-----aagccggcccgaaa 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTGAACTTAA 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCGGGTTTGGTGTGTGGGGATCGGCTCTGCCTTMYGGCGGTGCCGCCCCGAAATACATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cccgggtttggtgttggggatcggcaagcccttgcggc-aagccggccccgaaatctagt 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                   aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGCCATGCCG-TAAAACCCCCAACTTCTGAATGTTGACCTCGGATCAGGTAGGAATACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaataccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA
cccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaaa
                                                         ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc
                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             339..504
                                                                                                                                                                                           77.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          80.6%;
91.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note-
                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STI.
                                                                                                                                                                                           Score 240.2; DB 18; Pred. No. 7.4e-68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. 6.3e-71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 249.8;
                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  end of large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 13; Length 561;
                                                                                                                                                                               33;
                                                                                                                                                                               Indels
                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                        Species
                                                                                                                                                                             7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               239
                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   291
                                                           122
                                                                                                                                                                             ۲,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2
```

```
á
                                                                                                                                         US-09-961-755A-5
                                                                                                                                                                                                  밁
                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                                                                                                                                                                                                                    õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; TYPE: DNA
; ORGANISM: Cylindrocarpon
US-09-580-797-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 6
US-09-580-797-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Henry, Travis
APPLICANT: Board of Regents of the University of Nebraska
APPLICANT: Board of Regents of the University of Nebraska
TITLE OF INVENTION: Detection of Clinically Relevant Pathogenic Fungal
FILE REFERENCE: UNMC 63149
CURRENT APPLICATION NUMBER: US/09/580,797
CURRENT FILING DATE: 2000-05-30
NUMBER OF SEO ID NOS: 39
SOFTWARE: FastSEQ for Windows Version 3.0
SEO ID NO 28
LENGTH: 672
                                                                                                             Sequence 5, Application US/09961755A GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 28, Application US/09580797 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
APPLICANT: Beck, Jim
APPLICANT: Barnett, Jason
APPLICANT: Barnett, Jason
TITLE OF INVENTION: Detection of Fusarium Species infecting
TITLE OF INVENTION: Polymerase Chain Reaction
FILE REPERENCE: 60055
CURRENT APPLICATION UMBER: US/09/961,755A
CURRENT FILING DATE: 2001-09-24
NUMBER OF SEQ ID NOS: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Iwen, Peter C. APPLICANT: Hinrichs, Steven H.
                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            183
                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                           360 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 419
                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                      1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60
                                                                                                                                                                                                              cggccaagccgttaaacccccaacttctgaatgtt 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          atacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            atacccgctgaacttaa 310
                                                                                                                                                                                               tggccacgccgttaaaccccccacttctgaaaggt 631
                                                                                                                                                                                                                                                       ggcggtctcgctgtagcttcctctgcgtagtagcacacctcgc---actggaaaacagcg
                                                                                                                                                                                                                                                                   99c9gtctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactggtacgcggcg
                                                                                                                                                                                                                                                                                                             cccgggtttggtgttggggatcggcaag-cccttgcggcaagccggccccgaaatctagt 179
                                                                                                                                                                                                                                                                                                                                                                     ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                  ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gcggcgcgccacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtagga 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gcggcgcggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtagga 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    destructans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 199; DB 22;
Pred. No. 3.2e-54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 672;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                       Corn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4;
                                                                      Using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                       596
                                                                                                                                                                                                                                                                                   239
                                                                                                                                                                                                                                                                                                              539
                                                                                                                                                                                                                                                                                                                                                                      479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Species
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'n
                                      Ş
                                                                      B
                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                밁
                                                                                                                            В
                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-961-755A-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-961-755A-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn
SEQ ID NO 5
                                                                                                                                                                                                                                                                                              LENGTH: 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             458
                                          121
                                                                                                                            229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                      ب
```

```
; TYPE: DNA
; ORGANISM: Fusarium
US-09-961-755A-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 8, Application US/09961755A GENERAL INFORMATION:
                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 258; Conserv
                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn version SEQ ID NO 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 62.7%;
Best Local Similarity 84.3%;
Matches 258; Conservative
                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/09/961,755A CURRENT FILING DATE: 2001-09-24 NUMBER OF SEQ ID NOS: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Beck, Jim
APPLICANT: Barnett, Jason
TITLE OF INVENTION: Detection
TITLE OF INVENTION: Polymeras
FILE REFERENCE: 60055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 522
TYPE: DNA
ORGANISM: Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     517 ctgaac 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                  aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ctgaac 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gcggtctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactggtacgcggcgc
                    cccgggtttggtgttggggatcggcaagcccttgcggcaagcccggacccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                   aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
gcggtcacg-tcgagcttccatagcgtagtagtaaaaccctcgttactggtaatcgtcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      version
                                                                                                                                                                                                                                                                                                    verticillioides (syn. F. moniliforme)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      subglutinans
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Detection of Fusarium Species infecting Corn Using the Polymerase Chain Reaction
                                                                                                                                                                                                                  62.7%;
84.3%;
                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 194.4; DB 36;
pred. No. 9.5e-53;
0; Mismatches 36;
                                                                                                                                                                                                                 Score 194.4; DB Pred. No. 9.5e-53
                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 36;
                                                                                                                                                                                                                                  DB 36;
                                                                                                                                                                                                    36;
                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       522;
                                                                                                                                                                                                   12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12;
                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       288
                                                                   348
                                                                                                  120
                                                                                                                                   288
                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                   ω
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ω
```

```
á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-905-314-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 22, Application US/08905314
GENERAL INFORMATION:
APPLICANT: Beck, James J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 546 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (919) 541-8689 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: CG
TELECOMMUNICATION INFORMATION:
TELEPHONE: (919) 541-8587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA: APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS TITLE OF INVENTION: USING THE POLYMERASE CHAIN REACTION
                                                                                                                                                                                                                                                                                           INDIVIDUAL ISOLATE: T-427, T-
INDIVIDUAL ISOLATE: sequence)
IMMEDIATE SOURCE:
CLONE: pCRFpoaeT427(1-2), pCR
CLONE: pCRFpoaeT756(3-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,
                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      517
                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301 ctgaac 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                          NAME/KEY: misc_feature
LOCATION: 1.30
OTHER INFORMATION: /note= "3'
OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                     NAME/KEY: misc_feature LOCATION: 181..337
OTHER INFORMATION: /note
                                                                                                               NAME/KEY: misc_feature LOCATION: 31..180
OTHER INFORMATION: /not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
  NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Fusarium poae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ctgaac 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcggcgc 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ggccacgccgttaaa.ccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gcggtcacg-tcgagcttccatagcgtagtagtaaaaccctcgttactggtaatcgtcgc 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20779-2257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEE: Novartis Corporation Patent Department: 3054 Cornwallis Road Research Triangle Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    č
                                                                                                                                                                                                                                                                                           pCRFpoaeT427(1-2), pCRFpoaeT534(2-2),
pCRFpoaeT756(3-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  USA
misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA (genomic)
                                     /note-
                                                                                                                 /note-
                                                                                                                                                                                                                 /note= "3' end of small subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US/08/905,314
                                                                                                                                                                                                                                                                                                                                                                            T-427, T-534, and T-756 (consensus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     38,241
                                         "5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   516
```

```
OTHER INFORMATION: /note= "5' end of large subunit;
OTHER INFORMATION: rRNA gene"
US-08-905-314-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 10
US-08-905-314-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΨ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
               REGISTRATION NUMBER: 38,241
REFERENCE/DOCKET NUMBER: CGC
TELECOMMUNICATION: TELEPHONE: (919) 541-8587
TELEPHONE: (919) 541-8689
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 19, Application US/08905314
GENERAL INFORMATION:
APPLICANT: Beck, James J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 262;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                 COUNTRY: USA
ZIP: 20779-2257
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS TITLE OF INVENTION: USING THE POLYMERASE CHAIN REACTION NUMBER OF SEQUENCES: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCATION: 338..48
OTHER INFORMATION:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
                                                                                                                                                                                                                   SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            517 CTGAACTTAA 526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                351 C---AGCTTGGTGTTGGG------ATCTGTGTGCAAACACAGTCCCCAAATTGATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    231 AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                   APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                             COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                       STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcggaatctttgaacgcaca 60
                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gcggtctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactggtacgcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCCACGCCGTTAAA-CCCCAACTTCTGAATGTTGACCTCGGATCAGGTAGGAATACCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCGGTCACG-TCGAGCTTCCATAGCGTAGTAATTTACACATCGTTACTGGTAATCGTCGC
                                                                                                                                                                                                                                                                                                                                                                Research Triangle Park
                                                                                                                                                                                                                                                                                                                                                       N
C
                                                                                                                                                                                                                                                                                                                                                                                     E: Novartis Corporation Patent Department 3054 Cornwallis Road
504 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_ fea
490..546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           338..489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note-
                                                                                                                                                                                                     US/08/905,314
                                                                                                    င္ပင္ပင
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 187.6; DB 13; Pred. No. 1.6e-50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 546;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
```

```
á
                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                   RESULT 11
PCT-US98-25210-4
                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                             DЬ
                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                       Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-905-314-19
         Sequence 4, Application PC/TUS9825210
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: ENGEL, Stacia R.
APPLICANT: DESCENZO, Richard A.
APPLICANT: IRELAN, Nancy A.
TITLE OF INVENTION: DETECTION OF FUNGAL PATHOGENS
NUMBER OF SEQUENCES: 38
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE:
ORIGINAL SOURCE:
ORGANISM: Fus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: /note=
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION: /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                               500
                                                                                                                                                                                                                                                         441
                                                                                                                                                                                                                                                                                                                                                                               332
                                                                                                                                                                                                                                                                                                                                                                                           121 cccgggtttggtgttggggatcggcaagcccttgcggcaagccggacccggaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301 ctgaa
                                                                                                                                                                                                                                                                                                                 381 GCGGTCACGTCGRAGCTTCCATAGCGTAGTAATTTACATATCGTTACTGGTAATCGTCGC
                                                                                                                                                                                                                                                                                                                                181 gcggtctcgctgcagcttccattgcgtagtagtagaaaccctcgcaactggtacgcgggcgc 240
                                                                                                                                                                                                                                                                                                                                                                                                                                         272
                                                                                                                                                                                                                                                                                                                                                                                                                                  60.28;
Local Similarity 82.68;
les 252; Conservation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: misc_feature
LOCATION: 473.504
OTHER INFORMATION: /note= "5'
OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: misc_feature LOCATION: 13..161
OTHER INFORMATION: /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: misc_feature
LOCATION: 1..12
OTHER INFORMATION: /note= "3'
OTHER INFORMATION: rRNA gene"
   ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Fusarium culmorum
INDIVIDUAL ISOLATE: R-5106, R-5126, and R-5146
INDIVIDUAL ISOLATE: (consensus sequence)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: misc_feature LOCATION: 319..472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: misc_ feature LOCATION: 162..318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                       ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                             CTGAA
                                                                                                                                                                                                                                                       GGCYACGCCGTTAAA - CCCCAACTTCTGAATGTTGACCTCGGATCAGGTAGGAATACCCG
                                                                                                                                                                                                                                                                                                                                                                          C---AGCTTGGTGTTGGG-----AGCTGCAGTCCTGCTGCACTCCCCAAATACATTG
                                                                                                                                                                                               504
                                                                                                                                                                                                                          305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          linear
BURNS, DOANE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA (genomic)
SWECKER & MATHIS, L.L.P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 186.6; DB 1
Pred. No. 3.4e-50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of small subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 13; Length 504;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                      499
                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                 440
                                                                                                                                                                                                                                                                                                                                                                          380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ω
``
```

```
RESULT 12
US-08-905-314-21
US-08-905-314-21
; Sequence 21, Application US/08905314
; GENERAL INFORMATION:
    APPLICANT: Beck, James J.
    TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS
    TITLE OF INVENTION: USING THE POLYMERASE CHAIN REACTION
    NUMBER OF SEQUENCES: 24
; CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                          20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PCT-US98-25210-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 83.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (703) 836-2021
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 08-DEC-1997
ATTORNEY/AGENT INFORMATION:
NAME: EKSTION, RICHARD C.
REGISTRATION NUMBER: 37,027
REFERENCE/DOCKET NUMBER: 0097
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 836-6620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: 1in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Release #1.0, Version CURRENT APPLICATION DATA: APPLICATION NUMBER: PCT/US98/25210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                578
                                                                                                                                                                                           298 ccgctgaacttaa 310
                                                                                                                                                                                                                                                                                                460
                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                   401 -CCTGGCTTGGTGATGGGGCACTGCTCCCCCCCCGGGGAGCAGGCCCTGAAATCCAGTG
                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                  343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET:
CITY: A
                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 611 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STATE: Virginia
COUNTRY: United States
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGCTGAACTTAA 590
                                                                                                                                                                                                                                                                                          GCGAGCTCGC--CAGGACCCCGAGCGCAGTAGTTAAACCCTCGCTCCGGGAGGCCCTGGC
                                                                                                                                                                                                                                                                                                           9c99tctc9ct9ca9cttccattgcgta9ta9taaaaccctcgcaactg--gtacgcggc
                                                                                                                                                                                                                                                                                                                                                                    ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                             TTGCGCCCTCTGGTATTCCGGAGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22313-1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alexandria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P.O. Box 1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
Novartis Corporation Patent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             59.7%;
83.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US 08/986,727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 185; DB 1;
Pred. No. 1.2e-49;
0; Mismatches 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       009773-012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   *1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                45; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 611;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                    577
                                                                                                                                                                                                                                                              297
                                                                                                                                                                                                                                                                                                                       238
                                                                                                                                                                                                                                                                                                                                                      459
                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                             400
                                                                                                                                                                                                                                                                                            517
```

4,

```
밁
                         ş
                                                      밁
                                                                               ð
                                                                                                                밁
                                                                                                                                         á
                                                                                                                                                                                                                                               US-08-905-314-21
                                                                                                                                                                        Query Match
Best Local Similarity
Matches 259; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (919) 541-8689
NFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Fusarium moniliforme INDIVIDUAL ISOLATE: 4551
IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM CC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PACENTIN Release #1.0, Version #1.
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 545 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,
                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: CGC 1944
TELECOMMUNICATION INFORMATION:
TELEPHONE: (919) 541-8587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
349 C---AGCTTGGTGTTGGG------AGCTGCAGTCCTGCTGCACTCCCCAAATACATTG
               STREET:
CITY: R
                                                                                                                                                                                                                                                       NAME/KEY: misc_feature
LOCATION: 489..545
OTHER INFORMATION: /note= "5' end of large subunit
OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: misc_ feature LOCATION: 1..30 OTHER INFORMATION: /note OTHER INFORMATION: rRNA
                                                                                                                                                                                                                                                                                                                                   NAME/KEY: misc_feature LOCATION: 336..488 OTHER INFORMATION: /not
                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc_ feature LOCATION: 179..335
OTHER INFORMATION: /note
                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: misc_feature LOCATION: 31..178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/08/905,314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20779-2257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Research Triangle Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pCRFMON1
                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  single
                                                                                                                                                                                   59.1%;
83.5%;
                                                                                                                                                                                                                                                                                                                                                                                           /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "3' end of small subunit
rRNA gene"
                                                                                                                                                                                                                                                                                                                                   /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             38,241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21:
                                                                                                                                                                          0;
                                                                                                                                                                       Score 183.2; DB 1
Pred. No. 4.6e-49;
0; Mismatches 38
                                                                                                                                                                                                                                                                                                                                     STI.
                                                                                                                                                                                                                                                                                                                                                                                           "5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                   "ITS 1"
                                                                                                                                                                                                   DB 13; Length 545;
                                                                                                                                                                          38;
                                                                                                                                                                        Indels
                                                                                                                                                                          13;
                                                                                                                                                                       Gaps
 397
                                                                                                                                                                        4
```

```
US-08-905-314-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 20, Application US/08905314 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (919) 541-86
NFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 503 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS TITLE OF INVENTION: USING THE POLYMERASE CHAIN REACTION NUMBER OF SEQUENCES: 24
                                                                                                                    OTHER INFORMATION: FEATURE:
                                                                                                                                                                                   NAME/KEY: misc_ feature
LOCATION: 1.9
OTHER INFORMATION: /note= "3'
OTHER INFORMATION: rRNA gene"
FEATURE:
                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: |
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    516 CTGAACTTAA 525
NAME/KEY: misc_feature LOCATION: 313..466
OTHER INFORMATION: /not
                                                                                                                                                                                                                                                                                  ORGANISM: Fusarium graminearum INDIVIDUAL ISOLATE: R-8417, R-8422, and R-8546 INDIVIDUAL ISOLATE: (consensus sequence)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Novartis Corporation Patent Department STREET: 3054 Cornwallis Road CITY: Research Triangle Park
                                                                 OTHER INFORMATION:
                                                                                  NAME/KEY: misc_ feature LOCATION: 156..312
                                                                                                                                                  NAME/KEY: misc_feature LOCATION: 10..155
                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/905,314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20779-2257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N
C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (919) 541-8689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Beck, James J.
                                                                                                                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (919) 541-8587
                                                                                                                                                                                                                                                                                                                                                        DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  435
                                                                                                                                   /note-
                                                                  /note-
/note- "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             38,241
                                                                                                                                                                                                                                                                                                                                                                                                                                                             20:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGC 1944
                                                                  5
                                                               .8S rRNA gene"
                                                                                                                                                                                                                      end of small subunit
2
```

```
APPLICANT: Beck, Jim
APPLICANT: Bernett, Jason
APPLICANT: Bernett, Jason
TITLE OF INVENTION: Detection of Fusarium Species infecting Corn Using the
TITLE OF INVENTION: Polymerase Chain Reaction
FILE REFERENCE: 60055
CURRENT APPLICATION NUMBER: US/09/961,755A
CURRENT FILING DATE: 2001-09-24
NUMBER OF SEQ ID NOS: 24
SOFTWARE: Patentin version 3.0
SEQ ID NO 6
LENGTH: 521
TYPE: DNA
ORGANISM: Gibberella zeae
US-09-961-755A-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: misc_ feature

LOCATION: 467..503

OTHER INFORMATION: /note= "5'
OTHER INFORMATION: rRNA gene"

US-08-905-314-20
    ₽
                       Ş
                                                        망
                                                                             Ş
                                                                                                           В
                                                                                                                                  ş
                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 14
US-09-961-755A-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                             Query Match
Best Local Similarity
Matches 255; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 6, Application US/09961755A GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 58.2%; Score 180.4; Best Local Similarity 80.0%; Pred. No. 3.70 Matches 248; Conservative 12; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
NAME/KEY:
LOCATION:
    349
                             121
                                                                                                          229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatcttttgaacgcaca
              cccgggftttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                tlgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                    aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 288
c---agcttggtgttggg
                                                  ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGAAGGTAA 503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99ccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCGGTCACG-TCGAACTTCCATAGCGTAGTAAGTTACACATCGTTACTGGTAATCGTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9c9gtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcggcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C---AGVTTGGTGTKGGGGARYTGCAGKCC-----TRYTKCACTCCCCAAATAARTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cccgggtttggtgttggggatcggcaagcccttgcggcaagccggcccggaaatctagtg
                                                                                                                                                              Conservative
                                                                                                                                                                         57.8%;
                                                                                                                                                          Score 179.2; DB 36;
Pred. No. 9.2e-48;
0; Mismatches 38;
agctgcagtcctgctgcactccccaatacattg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             end of large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ); DB 13;
3.7e-48;
                                                                                                                                                                                  DB 36; Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   38;
                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 503;
                                                                                                                                                           13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12;
                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                  348
                         180
397
                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                          4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4.
```

```
APPLICANT: Iwen, Peter C.

APPLICANT: Henry, Travis

APPLICANT: Henry, Travis

APPLICANT: Board of Regents of the University of Nebraska

TITLE OF INVENTION: Materials and Methods for Molecular

TITLE OF INVENTION: Detection of Clinically Relevant Pathogenic Fungal Species

FILE REFERENCE: UNMC 63149

CURRENT APPLICATION NUMBER: US/09/580,797

CURRENT FILING DATE: 2000-05-30

NUMBER OF SEQ ID NOS: 39

SOFTMARE: FastSEQ for Windows Version 3.0

SEQ ID NO 11

SEQ ID NO 11

CRGANISM: Fusarium oxysporum

US-09-580-797-11
                                  δÃ
                                                                        밁
                                                                                                   Ş
                                                                                                                                        밁
                                                                                                                                                                   Qy
                                                                                                                                                                                                     В
                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 15
US-09-580-797-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 11, Application US/09580797 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                        506
                                                                                                                                        458
                                                                                                       181
                                                                                                                                                                     121
                                                                                                                                                                                           398 ttgcgcctgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagca 457
                                                                                                                                                                                                                                                           338 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            457
                                                                                                                                                                                                              61 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                              l aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcggaatctttgaacgcaca
ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatac
                                                                               9099totcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcggc
                                                               gcggtcacg-tcgagcttccatagcgtagtagtaaaaccctcgttactggtaatcgtcgc
                                                                                                                             c---agcttggtgttgggactcg------cgttaattcgcgttccccaaattgattg
                                                                                                                                                cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ctgaac 306
                                                                                                                                                                                                                                                                                                                                   251;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ggccacgccgttaaa-ccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99ccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gcggtcacg-tcgagcttccatagcgtagtaatttacacatcgttactggtaatcgtcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        geggtetegetgeagettecattgegtagtagtagaaceetegeaactggtaggege
                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                               57.4%;
84.5%;
                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                            Score 177.8; DB 2
Pred. No. 2.8e-47;
0; Mismatches 32
                                                                                                                                                                                                                                                                                                                                                           DB 22;
                                                                                                                                                                                                                                                                                                                                32;
                                                                                                                                                                                                                                                                                                                                                               Length 620;
                                                                                                                                                                                                                                                                                                                              14;
     620
                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                               505
                                                                                                                                                                                                                                                                397
                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          456
                                                                                                                                                                                                                                                                                                                              4.
```

Search completed: August 22, 2002, 00:39:29 Job time: 13054 sec

```
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
```

OM nucleic - nucleic search, using sw model

Run on:
August 22, 2002, 00:50:49; Search time 663.62 Seconds
(without alignments)
1256.889 Million cell updates/sec

Title:
US-10-046-955-7
Perfect score: 310

Sequence: 1 aaatgcgataagtaatgtga.....ggaatacccgctgaacttaa 310
Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 1721111 seqs, 1345317543 residues

Total number of hits satisfying chosen parameters: 3442222

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database: Pending_Patents_NA_New:*

1: /cgn2_6/ptodata/2/pna/PCT_NEW_COMB.seq:*

2: /cgn2_6/ptodata/2/pna/USO6.NEW_COMB.seq:*

3: /cgn2_6/ptodata/2/pna/USO7_NEW_COMB.seq:*

4: /cgn2_6/ptodata/2/pna/USO9.NEW_COMB.seq:*

5: /cgn2_6/ptodata/2/pna/USO9.NEW_COMB.seq:*

6: /cgn2_6/ptodata/2/pna/USO9.NEW_COMB.seq:*

7: /cgn2_6/ptodata/2/pna/USO0.NEW_COMB.seq:*

8: /cgn2_6/ptodata/2/pna/USO0.NEW_COMB.seq:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match L	Length	DВ	ID	Description
1	310	100.0	310	7	US-10-046-955-7	Sequence 7, Appli
N	240.2		319	7	10-046	ς.
w	136.2		652	_	-US02-11769	ν,
4	136	43.9	365	7	US-10-046-955-3	ω
տ	131.4	42.4	364	7	US-10-046-955-2	N
6	125	40.3	309	7	US-10-046-955-28	28,
7	124.6	40.2	641	σ	-09-766-1730	4, 7
8	124.4	40.1	536	S	US-09-517-790-5	<u>ر</u>
9	•	40.1	650	<u>, , , , , , , , , , , , , , , , , , , </u>	PCT-US02-11769-4	4
10	•		365	7	US-10-046-955-5	<u></u> ნ
11		38.8	618	IJ	US-09-766-173C-5	<u>ب</u>
12	111.6	36.0	343	7	US-10-046-955-27	27,
13	111.6	36.0	344	7	-955-2	26,
14	108.8		336	7	US-10-046-955-29	29
15	107.8	34.8	346	7	US-10-046-955-25	25
16	107.4	٠	515	S	US-09-517-790-1	
17	107.4	34.6	523	S	US-09-517-790-4	4.
18	•	34.6	346	7	US-10-046-955-24	24,
19	100.2	32.3	355	7	-955-	4, 1
20	•	•	516	υ	US-09-517-790-2	ν,
21	91.2	•	570	5	-790-	
22	•	•	330	7	US-10-046-955-8	8,
23	59.4	19.2	327	7	US-10-046-955-10	10,
24	59.4	19.2	328	7		9, ,
25	59.4	19.2	330	7	US-10-046-955-12	12,

20
17.1 32.5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
131 5 1 131 5 1 132 7 7 1 1414 7 7 1 1414 7 7 1 2091 5 1 2091 5 1 2097 7 7 1 2097 8 1 2097 8 1 2097 9 1 2
78775555555555555555555555555555555555
5 US-09-935-625-19457 5 US-09-975-254-4556 7 US-10-155-881-16180 7 US-10-155-881-6237 7 US-10-165-881-6337 7 US-10-046-955-19 5 US-09-935-625-17457 5 US-09-935-625-17457 5 US-09-935-625-17457 5 US-09-935-625-17457 5 US-09-935-625-17511 6 US-09-935-625-17511 7 US-09-935-625-18547 7 US-09-935-625-25913 8 US-09-935-625-25913 9 US-09-935-625-25913 9 US-09-935-625-26550 7 US-10-177-253-71 9 US-09-935-625-26550 7 US-10-155-881-2313 8 US-09-931-781-202 9 US-10-155-881-6313
US-10-945-524-5941 US-09-975-254-4556 US-10-155-881-16180 US-110-155-881-6537 US-10-046-955-19 US-10-046-955-19 US-09-935-625-25792 US-09-935-625-25792 US-09-935-625-17457 US-09-935-625-17551 US-09-935-625-17511

ALIGNMENTS

Q 밁 Ş В δÃ В Ş ; ORGANISM: Fusarium moniliforme US-10-046-955-7 US-10-046-955-7 RESULT Query Match
Best Local Similarity 100. NUMBER OF SEQ ID NOS: 61
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 7
LENGTH: 310 Sequence 7, Application US/10046955 GENERAL INFORMATION: APPLICANT: Choi, Jong Soo

ITILE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR PRIOR DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 05/045,400
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02 APPLICANT: APPLICANT: APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for APPLICANT: Control and Prevention TYPE: DNA 181 1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcggaatctttgaacgcaca 60 cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg 180 cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg 180 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120 gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcggcgc 240 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60 Aidorevich, Lil Choi, Jong Soo Morrison, Christine J. Reiss, Errol 100.0%; Score 310; DB 7; 100.0%; Pred. No. 4.4e-93; vative 0; Mismatches 0; Liliana Length 310; Indels <u>.</u> Gaps 0

```
APPLICANT: Aldorevich, Liliana
APPLICANT: Choi, Jong Soo
TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and
TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR FILING DATE: 1908-05-01
PRIOR FILING DATE: 1998-05-01
PRIOR FILING DATE: 1997-05-02
PRIOR FILING DATE: 1997-05-02
                                                                                                                                                                В
                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                         ş
                                                                    Ş
                                                                                                       8
                                                                                                                              Q
                                                                                                                                                                                                                                Вþ
                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                         ş
                                                                                                                                                                                                                                                                                                                                                         В
RESULT
                                            В
                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-046-955-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     믕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-046-955-6
                                                                                                                                                                                                                                                                                                                                                                                                                   Ouery Match 77.5%;
Best Local Similarity 87.4%;
Matches 277; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 61
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 6, Application US/10046955
GENERAL INFORMATION:
APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for APPLICANT: Control and Prevention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Fusarium solani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 319
                                                                                                       243
                                                                                                                                                                   183
                                                                                                                                                                                                 174
                                            303
                                                                                                                                   234
                                                                                                                                                                                                                                  123
                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                             63
                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301 ctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 ctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                        w
                                                                                                                                                                                                                                                                                                                                                                                       -
                                                                                                                                                                                                                                        atacccgctgaacttaa
                                                       atacccgctgaacttaa 310
                                                                                                                 9c9gcgcggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtagga
                                                                                                                                                                          tctagtggcggtctcgctgcagcttccattgcgtagtagtagtagaaccctcgcaactggtac
                                                                                                                                                                                                                                                                                                                                                                aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatcttttgaacgcaca
                                                                                               9c99c9cggccacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtagga
                                                                                                                                                          tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga
                                                                                                                                                                                                                        cccgggcctggcgttggggatcggcggaagcccctgcgggcacaacgccgtccccaaa
                                                                                                                                                                                                                                                                                   ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc
                                                                                                                                                                                                                                                                                                                                                 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                   ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Morrison, Christine J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Reiss, Errol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               310
                                          319
                                                                                                                                                                                                                                                                                                                                                                                                                Score 240.2; DB 7; Length 319;
Pred. No. 7.6e-70;
0; Mismatches 33; Indels 7
                                                                                                                                                                                                                                                                                                                                                                                                                7;
                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                302
                                                                                                                              293
                                                                                                                                                           242
                                                                                                                                                                                                                                                       173
                                                                                                                                                                                                                                                                                                                                                   62
                                                                                                                                                                                         233
                                                                                                                                                                                                                          182
                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Di:
```

```
APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for APPLICANT: Morrison, Christine J.

APPLICANT: Reiss, Errol
APPLICANT: Reiss, Errol
APPLICANT: Addorevich, Liliana
APPLICANT: Addorevich, Liliana
APPLICANT: Choi, Jong Soo
TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and
FILTE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT APPLICATION NUMBER: US/10/046,955
PRIOR APPLICATION NUMBER: US/10/046,955
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: US/10/045,400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Manker, Denise
TITLE OF INVENTION: NOVEL ENDOPHYTIC FUNGI AND METHODS OF
TITLE OF INVENTION: USE
ITLE OF INVENTION: USE
CURRENT APPLICATION NUMBER: PCT/US02/11769
CURRENT APPLICATION NUMBER: 60/283,902
PRIOR APPLICATION NUMBER: 60/283,902
PRIOR APPLICATION NUMBER: 60/283,002
PRIOR APPLICATION NUMBER: 60/283,002
PRIOR FILING DATE: 2002-03-11
PRIOR APPLICATION NUMBER: 60/363,072
PRIOR FILING DATE: 2001-04-16
NUMBER OF SEQ ID NOS: 4
SOFTMARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                        US-10-046-955-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PCT-US02-11769-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PCT-US02-11769-2
                                                                                                                                                                                                                                                                                                                                                              Sequence 3, Application US/10046955 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 43.9%;
Best Local Similarity 71.7%;
Matches 223; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 2, Applicat GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA
ORGANISM: Muscodor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300 gctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   329 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           l aaatgogataagtaatgigaattgoaaaattoagtgaatcatogaatotttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cggccctgccgtaaaaccccctatatcaaaggttgacctcggatcaggtaggaataccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 oggocaagoogttaaaccccccaacttctgaatgttgacctcggatcaggtaggaataccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                geggtetegetgeagetteeattgegtagtagtagaacectegeaact-ggtaegeggeg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cccgggtttggtgttggggatcggcaagcccttgcggcaagccgggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gcggagttggttc----tcactctaggcgtagtaaatctatctcgcctctgtagtggttc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ctgttgcttagcgttgggagcc....tacggcactgcccgtagctccctaaagtgattg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ttgcgcccattagcattctagtgggcatgcctgttcgagcgtcatttcaccacttaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Application PC/TUS0211769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 136.2; DB 1
Pred. No. 3.8e-35;
0; Mismatches 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               652;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ω
•••
```

230

290

```
CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR FILING DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEQ ID NOS: 61
SOFTMARE: Patentin Ver. 2.0
SEQ ID NO 2
LENGTH: 364
                                                                                                 ; TYPE: DNA ; ORGANISM: Aspergillus fumigatus US-10-046-955-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-046-955-2
; Sequence 2, Application US/10046955
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; LENGTH: 365
; TYPE: DNA
; ORGANISM: Aspergillus niger
US-10-046-955-3
  Query Match
Best Local Similarity
Matches 213; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 218; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for Di. APPLICANT: Control and Prevention APPLICANT: Morrison, Christine J.
                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species TITLE OF INVENTION: Other Filamentous Fungi FILE REFERENCE: 6395-62064
                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Aidorevich, Li
APPLICANT: Choi, Jong Soo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR FILING DATE: 1997-05-02 NUMBER OF SEQ ID NOS: 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   295 tacccgctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              350 tacccgctgaacttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 cccgggtttggtgttggggatcggcaagcccttgcggcaagccggacccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cggcgcgggccaagccgttaaaccccccaacttctgaatgttgacctcggatcaggtaggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gcggtctcgctgcagcttccattgcgta-----gtagtaaaaccctcgcaactggtacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cggcgcctgccgacgttatccaaccattttttccaggttgacctcggatcaggtaggga 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gcggcaccgcgtccgatcctcgagcgtatggggctttgtcacctgctctgtaggcccggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cacggcttgtgtgttgggtcgccgtccccctttcccgggggacgggcccgaaaggcagcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ttgcgcccctggtattccggggggcatgcctgtccgagcgtcattgctgccctcaag-- 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aaatgcgataactaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcaca 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Reiss, Errol
    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            43.9%;
                    42.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Liliana
  Score 131.4; DB 7;
Pred. No. 1.3e-33;
0; Mismatches 96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 136; DB 7;
Pred. No. 3.7e-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     289
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2
                                                                                                                                                                                                                                                                                                                                  APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for APPLICANT: Control and Prevention

APPLICANT: Morison, Chistine J.

APPLICANT: Midorevich, Liliana

APPLICANT: Choi, Jong Soo

TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and

TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and

FILE REFERENCE: 6395-6264

CURRENT APPLICATION NUMBER: US/10/046,955

CURRENT FILING DATE: 2000-06-04

PRIOR APPLICATION NUMBER: US 99/423,233

PRIOR FILING DATE: 1998-05-01

PRIOR APPLICATION NUMBER: US 60/045,400

PRIOR APPLICATION NUMBER: US 60/045,400

PRIOR FILING DATE: 1997-05-02

NUMBER OF SEQ ID NOS: 61

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 28

LENGTH: 309

TYPE: DNA

US-10-046-955-28
                                               δÃ
                                                                                             В
                                                                                                                                δã
                                                                                                                                                                           밁
                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-046-955-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                      Matches 216; Conserv
                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 28, Applica GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                        1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcggaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                52
      c---ggcttgtgtgttgggccccgtcctccgatcccgggggacgggcccgaaaggcagcg
                                 cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                         ttgcgccccctggtattccggggggcatgcctgtccgagcgtcattgctgccctcaagca 119
                                                                                                                                                                   aaatgcgatacgtaatgtgaattgc-aaattcagtgaatcatcgagtctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cgcggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gcggtctcgctgcagcttccattgcgta---gtagtaaaaccctcgcaactggtacgcgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatcttttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99cgccagccgacacccaactttatttttctaaggttgacctcggatcaggtagggatac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gcggcaccgcgtccggtcctcgagcgtatggggcttgtcacctgctctgtaggcccggcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cacqgcttgtgtgtgtcccccgtccccctctcccgggggacgggcccgaaaggcagcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ttgcgccccctggtattccggggggcatgcctgtccgagcgtcattgctgcccatca-ag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aaatgcgataactaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28, Application US/10046955
                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                      40.3%;
                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                 Score 125; DB 7;
Pred. No. 1.6e-31;
0; Mismatches 90
                                                                                                                                                                                                                                                 90;
                                                                                                                                                                                                                                                                                     Length 309;
```

Indels

7;

۳

59

В δ 밁 Ş В Ş

u ۲۰

```
TITLE OF INVENTION: Materials and Methods For Detection of TITLE OF INVENTION: Pathogenic Guignardia Citricarpa FILE REFERENCE: Oregon 99-09

CURRENT APPLICATION UNMBER: US/09/766,173C

CURRENT FILING DATE: 2001-01-22

PRIOR APPLICATION NUMBER: PCT/US01/01735

PRIOR FILING DATE: 2001-01-19

PRIOR FILING DATE: 2001-01-9

PRIOR APPLICATION NUMBER: 60/177,013

PRIOR FILING DATE: 2000-01-19

NUMBER OF SEQ 1D NOS: 13

SOFTMARE: FastSEQ for Windows Version 3.0

SEQ ID NO 4

LENCTH: 641
RESULT 8
US-09-517-790-5
; Sequence 5, Application US/09517790
; GENERAL INFORMATION:
; APPLICANT: White, Jr., James F
; TITLE OF INVENTION: Use of Phoma glomerata as a Hyperparasite in the TITLE OF INVENTION: Diseases in Plants
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TYPE: DNA
; ORGANISM: Guignardia Citricarpa
US-09-766-173C-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-766-173C-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 4, Application US/09766173C GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Carroll, George C.
                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                      498
                                                                                                                                                                                                                                                                                                                                                                   438
                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60
                                                                                                                                                                                       gctgaacttaa 310
                                                                                                                                                                                                                                ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                        gctgaacttaa
                                                                                                                                                                                                                                                                                               ggcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcggcg 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ccgctgaacttaa 310
||||||||||||||
|ccgctgaacttaa 309
                                                                                                                                                                                                                                                                                                                                                                ctgcttggtattgggcgacgtccgctgccggacgcctggaagacctcggcgacggcgt 497
                                                                                                                                                                                                                                                                                                                                                                                                                                ttgcgccccctggcattccggggggcatgcctgttcgagcgtcatttcaaccctcaagct 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cgcggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatac 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cggcgcttgccgatcaacccaaatttttatccaggttgacctcggatcaggtagggatac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                        628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              40.28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 124.6; DB 5;
Pred. No. 2.8e-31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches 109;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 641;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       236
                                       Biocontrol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1:
                                     of
                                  Q
      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-517-790-5
                                                                                                                                                                                                 LENGTH:
      329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         280
                                                                                                                                                                                                650
```

á 망

밁 Ş 밁

388

٠,

밁 Ş

Ş

Ş

밁 ş

В

```
Sequence 4, Application PC/TUS0211769
GENERAL INFORMATION:
APPLICANT: Strobel, Gary
APPLICANT: Manker, Denise
TITLE OF INVENTION: NOVEL ENDOPHYTIC FUNGI AND METHODS OF
TITLE OF INVENTION: USE
FILE REFERENCE: AQ 2019.40
CURRENT APPLICATION NUMBER: PCT/US02/11769
CURRENT APPLICATION NUMBER: 60/283,902
PRIOR APPLICATION NUMBER: 60/283,902
PRIOR FILING DATE: 2002-03-11
PRIOR APPLICATION NUMBER: 60/363,072
PRIOR FILING DATE: 201-04-16
NUMBER OF CENTRALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/517,790
CURRENT FILING DATE: 2000-03-02
PRIOR APPLICATION NUMBER: US 60/123,099
PRIOR FILING DATE: 1999-03-05
NUMBER OF SEQ ID NOS: 5
SOFTWARE: PatentIn version 3.1
SEQ ID NO 5
LENGTH: 536
TYPE: DNA
ORGANISM: Ampelomyces humuli
                                                                                                                                                                     ; TYPE: DNA
; ORGANISM: Muscodor roseus
PCT-USO2-11769-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PCT-US02-11769-4
                                                                 Query Match
Best Local Similarity
Matches 222; Conserv
                                                                                                                                                                                                                                       NUMBER OF SEQ ID NOS: 4
SOFTWARE: FastSEQ for Windows Version
SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 215; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      511 ctgaacttaa 520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301 ctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ctctgcttggtgtttggtttgtctcgcctctgcgtgtagactcgcctcaaaacaattg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ttgcgccccttggtattccatggggcatgcctgttcgagcgtcatttgtaccttcaag--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gacgacgtc--caaaagtacatttttacactcttgacctcggatcaggtagggatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gcagccggcgtattgatttcggagcgcagt----acatctcgcgctttgcactcataac
                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                             40.18;
71.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      40.18;
                                                                         Score 124.2; DB 1;
Pred. No. 3.8e-31;
0; Mismatches 78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 124.4; DB Pred. No. 3e-31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 5;
                                                                                                            Length
                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 536;
                                                                                                                                                                                                                                                                                                                                                                                                                                      OF.
                                                                           11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9;
                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               279
```

```
밁
                                        ş
                                                                       В
                                                                                                Ş
                                                                                                                               밁
                                                                                                                                                      ý
                                                                                                                                                                                     DЬ
                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 10
US-10-046-955-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ő
                                                                                                                                                                                                                                                                                                                : LENGTH: 365
: TYPE: DNA
: ORGANISM: Aspergillus nidulans
US-10-046-955-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR FILING DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEO ID NOS: 61
SOFTWARE: PALENTIN Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                    SOFTWALL SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 5, Application US/10046955 GENERAL INFORMATION:
                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 210; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for Disapplicant: Control and Prevention
APPLICANT: Morrison, Christine J.
APPLICANT: Reiss, Errol
APPLICANT: Aldorevich, Liliana
APPLICANT: Aldorevich, Liliana
APPLICANT: Choi, Jong Soo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species TITLE OF INVENTION: Other Filamentous Fungi FILE REFERENCE: 6395-62064
                 230
                                             181
                                                                                                                                112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            389
                                                                                                                                                           61
                                                                                                                                                                                     52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                            ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cccgggtttggtgttggggatcggcaagcccttgcggcaagccggaaatctagtg
                                                                                                                                                                                                    aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gctgaacttaa
||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gcggtctcgctgcagcttccattgcgtagtagtagaaaccctcgcaact-ggtacgcggcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgc----aactggtacg
                                                                                                                               ttgcgccccctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaag--
                                                                                                                                                                                   aactgcgataagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcaca 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gctgaacttaa
                                                                       cccggcttgtgttgggtcgtcgtccccccccccgggggacgggcccgaaaggcagcgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ctgttgcttagcgttgggagcc----tacggcactgcccgtagctccctaaagtgattg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gcggagttggttc----tcactctaggcgtagtaaatctatctcgcctctgtagtggttc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ttgcgcccattagcattctagtgggcatgcctgttcgagcgtcattt-accacttaagcc
                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     629
                                                                                                                                                                                                                                                       39.78;
                                                                                                                                                                                                                                            0; Mismatches
                                                                                                                                                                                                                                                        Score 123.2; DB 7;
Pred. No. 6.8e-31;
                                                                                                                                                                                                                                            98; Indels
                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                       365;
                                                                                                                                                                                                                                           8,
                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        618
                                           234
                                                                       229
                                                                                                   180
                                                                                                                               169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                           2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; LENGTH: 618
; TYPE: DNA
; ORGANISM: Guignardia
US-09-766-173C-5
                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                        ₽
                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 11
US-09-766-173C-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                         US-10-046-955-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 208;
                APPLICANT:
                                                                                                                                                                                                                                                                                                              486
                                                                                                                                                                                                                                                                                                                                                                    433
                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                           373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 313
                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               350 tacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tacccgctgaacttaa 310
INVENTION: Nucleic Acids for
           Reiss, Errol
Aidorevich, Liliana
Choi, Jong Soo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Citricarpa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
```

```
Q
Sequence 27, Application US/10046955
GENERAL INFORMATION:
APPLICANT: The Government of the United States of APPLICANT: Secretary of the Department of Health APPLICANT: Control and Prevention APPLICANT: Morrison, Christine J. APPLICANT: Reiss, Errol APPLICANT: Aidorevich, Liliana APPLICANT: Choi. Jong Soo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: PCT/US01/01735
PRIOR FILING DATE: 2001-01-19
PRIOR APPLICATION NUMBER: 60/177,013
PRIOR FILING DATE: 2000-01-19
NUMBER OF SEQ ID NOS: 13
SOFTWARE: FastSEO for Windows Version 3.0
SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 5, Application US/09766173C GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 38.8%; Score 120.2; Best Local Similarity 66.5%; Pred. No. 7.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Carroll, George C.
TITLE OF INVENTION: Materials and Methods For Detection
TITLE OF INVENTION: Pathogenic Guignardia Citricarpa
FILE REFERENCE: Oregon 99-09
CURRENT APPLICATION NUMBER: US/09/766,173C
CURRENT FILING DATE: 2001-01-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        l aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      acggcgtcctagcctcgagcgtagtagtaaaatatctcgctttggagtgctgggcgacgg 545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gcggtctcgctgcagcttccattgcgtagtagtagtagaccctcgcaactggtacgcggcg- 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ccgccggacaatcgaccttcggtctatttttccaaggttgacctcggatcaggtagggat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----cggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaat 295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ctgcttggtattgggcaacgtccgctgccggacgtgccttgaagacctcg-----gcg 485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ttgcgccctctggtattccggagggcatgcctgttcgagcgtcatttcaaccctcaagct 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .9e-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 5;
                                                                                                                          America, as Represented and Human Services, Cent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        618;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                    605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 294
                                                                                                                             ters for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ņ
```

Detecting

Aspergillus

Species

```
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR FILING DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEQ ID NOS: 61
SOFTWARE: PALENCIN VET. 2.0
SEQ ID NO 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; LENGTH: 343
; TYPE: DNA
; ORGANISM: Scedosportum apiospermum
US-10-046-955-27
                   á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ş
                                                                                                                                                               ; ORGANISM: Scedosporium apiospermum 
US-10-046-955-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-046-955-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 79.5%; Matches 132; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 26, Application US/10046955 GENERAL INFORMATION:
                                                                                                                                                                                                                                         SOFTWARE: PA
                                                           Best Local Similarity Matches 132; Conserv
                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Choi, Jong Soo
TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and
TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR FILING DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for Di
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT FILING DATE: 2002-06-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: Other Filamentous Fungi FILE REFERENCE: 6395-62064
                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS: 61 SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                       TYPE: DNA
                                                                                                                                                                                                                        LENGTH: 344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121 cccgggtttggtgttggggatcggcaagcccttgcggcaagccggc 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 l aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcggaatctttgaacgcaca 60
l aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ttgcgcccggcagtaatctgccgggcatgcctgtccgagcgtcatttcaaccctcgaacc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tccgtttcctcagggaagctcagggtcggtgttggggcgctacggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Aldorevich,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Control and Prevention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Morrison, Christine J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Reiss, Errol
                                                             Conservative
                                                                              36.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Liliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 111.6; DB Pred. No. 4.9e-27
                                                           Score 111.6; DB 7
Pred. No. 4.9e-27;
0; Mismatches 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 7;
                                                                                                 DB 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 343;
                                                             Indels
                                                                                                 Length 344;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                             0;
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; SOFTWARE: PatentIn Ver. 2.0
; SEO ID NO 29
; LENGTH: 336
; TYPE: DNA
; ORGANISM: Sporothrix schenckii
US-10-046-955-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 14
US-10-046-955-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                           US-10-046-955-25
                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                     Sequence 25, Application US/10046955
GENERAL INFORMATION:
APPLICANT: The Government of the United States of APPLICANT: Secretary of the Department of Health APPLICANT: Control and Prevention APPLICANT: Morrison, Christine J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 29, Application: GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 35.1%;
Best Local Similarity 72.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US 60/045,400 PRIOR FILING DATE: 1997-05-02 NUMBER OF SEQ ID NOS: 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species TITLE OF INVENTION: Other Filamentous Fungi FILE REFERENCE: 6395-62064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for APPLICANT: Control and Prevention APPLICANT: Morrison, Christine J.
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: PCT/US98/08926 PRIOR FILING DATE: 1998-05-01
                                                                                                                                                                                                                                                            191 gtggaaggctccgagcgcagtaccgaacgcat 222
                                                                                                                                                                                                                                                                                   190 ctgcagcttccattgcgtagtagtagaaaccct 221
                                                                                                                                                                                                                                                                                                                                                                         131 gtgttggggatcggcaagc-ccttgcggcaagccgggccccgaaatctagtggcggtctcg 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          131 cgctggtgttgggggcgccctccgcctggcggggggcccccgaaagcgagtggcggggccct 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              122 tccgtttcctcagggaagctcagggtcggtgttggggcgctacggc 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11 agtaatgtgaattgcaaaattcagtgaatcatcgaatcttttgaacgcacattgcgcccgc
                                                                                                                                                                                                                                                                                                                                                                                                                                   71 cagcattctggcgggcatgcctgtccgagcgtcatttcccccctcacgcgccccgttgcg 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11 actaatgtgaattgcagaattcagcgaaccatcgaatctttgaacgcacattgcgcccgc 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                             cagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcccccgggtttg 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ttgcgcccggcagtaatctgccgggcatgcctgtccgagcgtcatttcaaccctcgaacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Choi,
Aidorevich, Liliana
                    Reiss, Errol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Aidorevich,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Reiss, Errol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Application US/10046955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Jong Soo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Liliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 108.8; DB /;
Pred. No. 4.1e-26;
"'~matches 57;
                                                                                 America, as Represented by the and Human Services, Centers for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ۲,
```

```
APPLICANT: Choi, Jong Soo
TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and
TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR FILING DATE: 2000-06-27
PRIOR FILING DATE: 1998-05-01
PRIOR FILING DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEQ ID NO 25
LENGTH: 346
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; TYPE: DNA
; ORGANISM: Pseudallescheria boydii
US-10-046-955-25
Search completed: August 22,
Job time: 11890 sec
                                                                                           В
                                                                                                                             ð
                                                                                                                                                                  망
                                                                                                                                                                                                   ô
                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                 ₽
                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 34.8%; Score 107.8; DB 7; Length 346; Best Local Similarity 70.4%; Pred. No. 9e-26; Matches 243; Conservative 0; Mismatches 67; Indels 35
                                                                                        215 aaaccctc----gcaactggtacgcggcggcgacgcgttaaacccccaacttctga 269
                                                                                                                                                                                                                                        242 tettttgcaagetegeattgggteeeggeggaggeetgeegteaaaceacetataactee 301
                                                                                                                                                                                                                                                                                                               122 ctccgtttcctcagggaagctcagggtcggtgttggggcgctacggcaagtcttcgcaac 181
                                                                                                                                                                                                                                                                                                                                    62 attgcgcccggcagtaatctgccgggcatgcctgtccgagcgtcatttcaaccctcgaac 121
                                                                                                                                                                                                                                                                                                                                                                                                             60 attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagc 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2002, 00:50:50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                67; Indels 35;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6
```

Run

Maximum Minimum

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Searched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Post-processing:
                                                                           Pred. No. is the number of results predicted by chance to have
score greater than or equal to the score of the result being pr
and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     80
80
                                                                                                                               GenEmbl:*

1: gb_ba:*
2: gb_htg:*
3: gb_in:*
4: gb_om:*
5: gb_ow:*
5: gb_op:*
6: gb_pat
7: gb_pt:*
9: gb_pt:*
10: gb_s
11: gb_s
11: gb_s
12: gb_s
13: gb_s
14: gb_s
15: em_
16: em_
17: em_
17: em_
17: em_
20: em
20: em
20: em
21: em
20: em
21: em
23: el
24: e
        Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   seq length: 0 seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hits satisfying chosen parameters:
       Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Minimum Match 0%
Maximum Match 100%
Listing first 45 su
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-046-955-49
18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1797656 seqs, 10463268293 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tctagtgacggtctcgct
                                                                                                                                                                                                                                                                                                                                                                                                                                                gb_pat: *
gb_ph: *
gb_pr: *
gb_pr: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gb_om:*
                                                                                                                               em_or:*
em_pat:*
em_pht:*
em_ph!:*
em_pl:*
em_sts:*
em_sts:*
em_un:*
em_htg_inv:*
em_htg_inv:*
em_htg_oinv:*
                                                                                                                                                                                                                                                                                                                                                                                          gb_sy:*
gb_un:*
gb_vi:*
                                                                                                                                                                                                                                                                                                             em_ba:*
em_fun:*
em_hum:*
em_in:*
em_mu:*
em_om:*
                                                                                                                                                                                                                                                                                                                                                                                                                                      gb_sts:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2002,
           DB
           IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22:09:49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ٠.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Search time 2238.68 Seconds (without alignments) 168.259 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3595312
           Description
                                                                                           printed,
                                                                                                                                                                                        ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                   RESULT
AF117922
                                                    JOURNAL REFERENCE
                                                                                                                                                              SOURCE
ORGANISM
                                                                                                                                                                                                                                                           LOCUS
DEFINITION
                                                                                                           REFERENCE
AUTHORS
                         AUTHORS
TITLE
                                                                                           TITLE
            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                   Gibberella fujikuroi.
Gibberella fujikuroi
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Eukaryota; Nectriaceae; Gibberella; Gibberella fujikuroi com
Submitted
30333, USA
                                                                                                                                                                                                    AF117922 310 bp DNA linear PLN 17-JUN-2 Gibberella fujikuroi ATCC 38519 5.8S ribosomal RNA gene, partial sequence; internal transcribed spacer 2, complete sequence; and ribosomal RNA gene, partial sequence.

AF117922 AF117922.1 GI:8570108
                                     2 (bases 1 to 310)
Choi, J.S., Westerman, J.M. and
                                                                                         Hypocreales: Nectriaceae; Gibberella; Gibberella fujikuroi comples 1 (bases 1 to 310) (bases 1 to 310) (Choi.J.S., Westerman,J.M. and Morrison,C.J. Rapid differentiation of filamentous fungi using species-specific
                                                                                 DNA
                         Direct Submission
                                                                 Abstr. Gen. Meet.
                                                                             probes
                                                                                                                                                                                                                                                                                                                                                                                   (09-SEP-1998) DBMD, CDC, 1600 Clifton Rd., Atlanta,
                                                                                                                                                                                                                                                                                                                                                                                   3310

4450

4450

4450

4450

4450

4450

4450

4450

4450

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

4560

                                                                 Am.
                                                                                                                                                                                                                                                                                                                                                                                 AF117922
AF111060
AF16903
AF1111060
AF261745
AF261740
NGA228665
NGA228666
NGA228667
NGA228667
NGA228667
NGA228677
NGA228687
NGA228687
NGA228687
NGA228688
NGA228689
NGA228689
NGA228689
NGA228689
NGA228693
                                                                 Soc.
                                                                                                                                                                                                                                                                                                                                            ALIGNMENTS
                                                                 Microbiol. 98,
                                       Morrison, C.J.
                                                                 C288
                                                                                                                                                                                                                                                                                                                                                                                   AF11292
AF111060
AF7261745
AF7261745
AF7261745
AF7261745
AF728665
AJ7228666
AJ7228666
AJ7228667
AJ7228677
AJ7228688
AJ7228689
AJ7228699
AJ7228699
AJ7228699
AJ7228699
AJ7228699
AJ7228699
AJ7228699
                                                                                                                                    fujikuroi complex
                                                                                                                                                                                                                                                                       PLN 17-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nectria g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gibberell
Fusarium
                                                                                                                                                                                                                                                                                                                                                                                               Fusarium
Fusarium
Fusarium
Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nectria
Nectria
Nectria
Nectria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cylindroc
Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nectria r
Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nectria
Nectria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nectria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fusarium
```

Result

No.

GA

28S

```
RESULT
AF111060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                   BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
AF162903
             DEFINITION
                                                                              망
                                                                                                    ş
                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     믕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                       KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                    Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                          AUTHORS
TITLE
                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                   rRNA
                                                                                                                                                                                                                                        misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rRNA
                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                              195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
nes 17; Conserv
                                                                                         1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 tctagtgacggtctcgct 18
                                                                              TCTAGTGGCGGTCTCGCT 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTAGTGGCGCTCTCGCT 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fusarium proliferatum 5.85 ribosomal RNA gene, partial sequence; internal transcribed spacer 2, complete sequence; and 285 ribosomal RNA gene, partial sequence.

AF162903
Fusarium sublunatum var. sublunatum strain BBA62431 internal transcribed spacer 1, partial sequence; 5.8S ribosomal RNA gene,
                                                                                                                          l Similarity
17; Conser
                                                                                                                                                                                                                                                                                                                      Submitted (28-JUN-1999) Biology, SangMyung
Dong, Chong Ro-Gu, Seoul 110-743, Korea
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                      Fusarium proliferatum
Eukaryota; Fungl; Ascomycota; Pezizomycotina; Son
Hypocreales; Nectriaceae; Gibberella; Gibberella
                      AF111060
                                                                                                                                                                                                                                                                                                                                                                      Min, B.R.
                                                                                                                                                                                                                                                                                                                                                           Direct
                                                                                                                                                                                                                                                                                                                                                                                                                           Fusarium proliferatum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   AF162903.1 GI:5690392
                                                                                                                                                                                                                                                                                                                                                                               (bases 1 to 351)
                                                                                                                                                                                             87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 73
                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                           Submission
                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ۵
                                                                                                                                                                                            /product="28S ribosomal RNA"
94 c 94 g 76 t
                                                                                                                                                                                                                   /product="internal transcribed 294. .>351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /product="internal transcribed 273. .>310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /product="5.8s ribosomal 159. .272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /db_xref="taxon:5127"
<1. .159
                                                                                                                                                                                                                                        /product~"5.8S ribosomal RNA"
129. .293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /product="28S ribosomal RNA"
86 c 80 g 71 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Gibberella
/strain="ATCC 38519"
/db_xref="ATCC:38519"
                                                                                                                                                                                                                                                                          /db_xref="taxon:42674"
                                                                                                                                                                                                                                                                                      /strain="6787"
                                                                                                                                                                                                                                                                                                /organism⇔"Fusarium proliferatum'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note-"ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                     91.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         91.18;
                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 16.4;
Pred. No. 88
                                                                                                                                     Score 16.4;
Pred. No. 88;
                       419 bp
                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          fujikuroi"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            88;
                                                                                                                                                 DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₽8
                                                                                                                                               8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                         1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1;
                                                                                                                                                                                                                              spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 spacer
                                                                                                                                               Length 351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 310;
                                                                                                                                                                                                                                                                                                                                              University, 7 Hong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                          Sordariomycetes;
lla fujikuroi com
                                                                                                                                                                                                                                2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ŋ
                      PLN 20-JAN-1999
                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                           complex.
                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
                                JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                             REFERENCE
AUTHORS
                                                                                                                                                                              VERSION
KEYWORDS
                                                                                                                                                                                                                                                           RESULT
AF261745
                                                                                                                                                           SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                           ₽
                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
ORIGIN
 FEATURES
                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                    LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
                     JOURNAL
                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                    Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                            365
                                                                                                                                                                                                                                                                                                                                                       l Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence.
AF111060
                                                                                                                                                                                                       sequence. AF261745
                                                                                                                                                                                            AF261745.1
                                                                                                                                                                                                                                                   AF261745
                                                                Unpublished
                                                                           rhizosphere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AF111060.1
                                                                                                                                                                                                                                                                                                                                                                                                                           105
                                                                                                                                                                                                                                                                                                                                                                                                                          ø
```

```
1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTAGTGGCGGTCTCGCT 382
                                                                                                                                                  Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes; Hypocreales; mitosporic Hypocreales; Cylindrocladiella.

1 (bases 1 to 457)
Risede, J.-M. and Simoneau, P.
Typing Cylindrocladium species by analysis of ribosomal DNA specimorphism: application to field isolates issued from banana references.
                                                                                                                                                                                                                                                                                                                                                                                                    Cylindrocladiella parva
ribosomal RNA gene, and
                Submitted (28-APR-2000) Plant Pathology, Lavoisier, Angers 49045, France
                                                    2 (bases 1 to 457)
Risede, J.-M. and Simoneau, P.
Direct Submission
                                                                                                                                                                                                                                                                          Cylindrocladiella parva.
Cylindrocladiella parva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (03-DEC-1998) Department of Molecular and Radiation Biophysics, Petersburg Nuclear Physics Institute RAS, Gatchin Leningrad Region 188350, Russia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 (bases 1 to 419)
Bulat, S.A., Yli-Mattila, T. and Alekhina, I.A.
Molecular taxonomy of Fusarium strains by means
sequencing and UP-PCR analysis. A case study of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fusarium sublunatum var. sublunatum.
Fusarium sublunatum var. sublunatum
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bulat, S.A. and Alekhina, I.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hypocreales; mitosporic Hypocreales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              complete sequence; and internal transcribed spacer 2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 419)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /product="internal transcribed 118 c 98 g 98 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /product="internal transcribed 137, .294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Fusarium sublunatum
/strain∞"BBA62431"
/variety∞"sublunatum"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="ITS1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /db_xref-"taxon:86548"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product="5.8S ribosomal RNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GI:4160484
                                                                                                                                                                                                                                                                                                                                           GI:10304122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               91.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                    internal internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                        457 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16.4;
No. 88;
                                                                                                                                                                                                                                                                                                                                                                                                    transcribed spacer transcribed spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ۳.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               var.
                                     Universite d'Angers,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sublunatum"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of ribotyping, :
Sporotrichiella
                                                                                                                                                                                                                                                                                                                                                                                                                                          PLN 26-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              partial
                                                                                                                                                                              DNA spacers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                     2 Bd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
```

PLN 26-SEP-2000

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
AF008562
                                                                        밁
                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
       RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                             Query Match
Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                             misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 tctagtgacggtctcgct 18
||||||| ||||||||||60 TCTAGTGGCGGTCTCGCT 377
       6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         91.18;
11 Similarity 94.48;
17; Conservation
                                                                                                                                                               l Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 l (bases 1 to 458)
Paavanen-Huhtala,S., Hyvonen,J., Bulat,S.A. and Yli-Mattila,T.
RAPD-PCR, ISOZYME, rDNA RFLP and rDNA sequence analyses in identification of Finnish Fusarium oxysporum isolates Mycol. Res. 103 (5), 625-634 (1999)
2 (bases 1 to 458)
2 (bases 1 to 458)
2 (the sequence of the sequence o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
Submitted (16-JUN-1997) Lab. of Plant Physiology and Molecular
Biology, Dept. of Biology, Univ. of Turku, Turku 20014, Finland
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes; Hypocreales; mitosporic Hypocreales; Fusarium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AF008562.1 GI:4102047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AF008562
458 bp DNA linear PLN 07-JUN-1999
Fusarium redolens internal transcribed spacer 1, partial sequence,
5.85 ribosomal RNA gene, complete sequence, and internal transcribed spacer 2, partial sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Fusarium redolens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fusarium redolens
                                                                                                                                                                                                                                                                                                   115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 101
                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                     ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 نو
                                                                                                                                                                                                                                                                                                /product="internal transcribed 130 c 106 g 104 t
                                                                                                                                                                                                                                                                                                                                             /product="5.8S ribosomal RNA" 294. .>458
                                                                                                                                                                                                                                                                                                                                                                                         /product="internal transcribed 135. .293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product="5.8S ribosomal RNA" 297. .457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product="internal transcribed 129. .296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /db_xref="taxon:48865"
/note="isolated from barley root
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Fusarium redolens"
/strain="93139"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /product="internal transcribed spacer 133 c 109 g 114 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism-"Cylindrocladiella parva"
/Strain="MUCL 636"
/db_xref="taxon:137496"
1. .128
                                                                                                                                                                                  91.18;
94.48;
                                                                                                                                                                                                                                                                                                                                        .>458
                                                                                                                                                                                                                                                                                                                                                                                                                                      . 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .457
                                                                                                                                                             Score 16.4; D
Pred. No. 88;
0; Mismatches
                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 16.4;
Pred. No. 88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                         DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DВ
                                                                                                                                                                                                         8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8;
                                                                                                                                                                                                                                                                                                spacer 2"
3 others
                                                                                                                                                                                                                                                                                                                                                                                                            spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           spacer 1"
                                                                                                                                                                                                       Length 458;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 457;
                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Siuntio
                                                                                                                                                                                                                                                                                                                                                                                                               1,
                                                                                                                                                             0:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Finland
                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                         ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
ORIGIN
    FEATURES
                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                      ORGANISM
                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NGA228662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                       AUTHORS
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 17
                                                                                                                                   TITLE
JOURNAL
                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ب
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tctagtgacggtctcgct 18
                                                     Direct Submission
Submitted (07-APR-1998) Langrell,
Sciences Wye College, University
TN25 5AH, UNITED KINGDOM
2 (bases 1 to 466)
                                                                                                                                                                                                                                                                                                                                                                                                                                               NGA228662
466 bp rRNA linear PLN 01-FEB-1999
Nectria galligena internal transcribed spacer 1 (ITS 1), 5.8S rRNA
gene, and internal transcribed spacer 2 (ITS 2) (Isolate CBS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      l Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Calonectria kyotensis.
Calonectria kyotensis
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AF261740 464 bp DNA linear PLN 26-SEP-2000 Calonectria kyotensis strain ATCC22677 internal transcribed spacer 1, 5.88 ribosomal RNA gene, and internal transcribed spacer 2,
                       Unpublished
                                                                                                                                                                                                                                   Neonectria galligena.
Neonectria galligena
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
                                                                                                                                                                                                                                                                                                                   AJ228662.1 GI:4210757
AJ228662.1 GI:4210757
18S ribosomal RNA; 18S rRNA gene; 28S ribosomal RNA; 28S rRNA gene; 18S ribosomal RNA; 28S rRNA gene; internal transcribed spacer;
                                                                                                                                                                                  Langrell, S.R.H.
                                                                                                                                                                                                  Hypocreales; Nectriaceae; 1 (bases 1 to 466)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 (bases 1 to 464)
Risede, J.-M. and Simoneau, P.
                                          Langrell, S.R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (28-APR-2000) Plant Pathology, Lavoisier, Angers 49045, France
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 (bases 1 to 464)
Risede, J.-M. and Simoneau, P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Typing Cylindrocladium species by analysis of ribosomal DNA spacers polymorphism: application to field isolates issued from banana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AF261740.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AF261740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rhizosphere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hypocreales; Nectriaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /product="5.8S ribosomal RNA" 298. .464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /product="internal transcribed 132 c 107 g 115 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /product="internal transcribed
129. .297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Calonectria
/strain="ATCC22677"
/db_xref="ATCC:22677"
/db_xref="taxon:40623"
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GI:10304117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             91.18;
94.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 16.4;
Pred. No. 88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                          Neonectria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Calonectria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 kyotensis"
                                                                                                         S.R.H., Dep
of London,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Universite
                                                                                                         Department of Biological on, Wye, Ashford, Kent.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 464;
                                                                                                                                                                                                                                               Sordariomycetes;
```

0

Gaps

0

d'Angers,

N Вd

DB

8

Length 466;

Indels

0,

Gaps

0

rRNA gene; spacer;

```
REFERENCE
AUTHORS
JOURNAL
                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT E
NGA228663
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 17
                                     gene
                                                                    rRNA
        misc_RNA
                                                                                                 misc_RNA
                                                                                                                                gene
                                                                                                                                                             rRNA
                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 tetagtgaeggteteget 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTAGTGGCGGTCTCGCT 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                             AJ228663
AJ228663.1 GI:4210758
AJ228663.1 RNA; 185 rRNA gene; 285 ribosomal RNA; 285 rRNA gene; 185 ribosomal RNA; 5.85 rRNA gene; internal transcribed spacer; 5.85 ribosomal RNA; 5.85 rRNA gene; internal transcribed spacer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nectria galligena internal transcribed spacer 1 (ITS 1), 5.8S rRNA gene, and internal transcribed spacer 2 (ITS 2) (isolate CBS 100317).
                                                                                                                                                                                                                                                                  Submitted (07-APR-1998) Langrell, Sciences, Wye College, University TN25 5AH, UNITED KINGDOM 2 (bases 1 to 466) Langrell, S.R.H.
                                                                                                                                                                                                                                                       Unpublished
                                                                                                                                                                                                                                                                                                                                                  Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                         Neonectria galligena
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; Nectriaceae; Neonectria.
                                                                                                                                                                                                                                                                                                                                                                                                                                           Neonectria galligena.
                                                                                                                                                                                                                                                                                                                                                                Langrell,S.R.H
                                                                                                                                                                                                                                                                                                                                                                            (bases 1 to 466)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /gene="5.8S rRNA gene"
140. 297
/gene="5.8S rRNA gene"
298. 462
      /gene="5.8S rRNA gene"
298. .462
                                   /gene="5.8S rRNA gene"
140. .297
                                                                  /note="internal transcribed spacer 1 (ITS 1)"
140. .297
                                                                                                                                                                                         /organism="Neonectria galligena"
/isolate="CBS 100317"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /gene="28S rRNA gene"
463. .466
                                                                                                                                                                         /db_xref-"taxon:56674"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  463. .466
/gene="28S rRNA gene"
142 c 111 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="internal transcribed 463. .>466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              140.
                                                                                                            /gene="18S rRNA
                                                                                                                                           /gene="18S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Neonectria galligena"
/isolate="CBS 100318"
/db_xref="taxon:56674"
                                                                                                                                                                                                                                      ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="internal transcribed spacer 1 (ITS 1)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="18S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /gene="18S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       91.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 16.4;
Pred. No. 88;
                                                                                                              gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     106 t
                                                                                                                                                                                                                                                                                                               S.R.H., Dep
of London,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                spacer 2 (ITS
                                                                                                                                                                                                                                                                                                               Department of Biological on, Wye, Ashford, Kent.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                           BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
JOURNAL
                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NGA228664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 94.4
17; Conservative
                                               Query Match

Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                       gene
                                                                                                                                                                                                                                                                  gene
                                                                                                                                                                                                       rRNA
                                                                                                                                                                                                                                     misc_RNA
                                                                                                                                                                                                                                                                                                 rRNA
                                                                                                                                                                                                                                                                                                                              misc_RNA
                                                                                                                                                                                                                                                                                                                                                             gene
                                                                                                                                                                                                                                                                                                                                                                                            rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           365 TCTAGTGGCGGTCTCGCT 382
1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NGA228664 466 bp rRNA linear PLN 01-FEB-1999 NGA228664 Rectria galligena internal transcribed spacer 1 (ITS 1), 5.8S rRNA gene, and internal transcribed spacer 2 (ITS 2) (isolate MUCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (07-APR-1998) Langrell, S.R.H., Department of Biological Sciences, Wye College, University of London, Wye, Ashford, Kent., TN25 5AH, UNITED KINGDOM 2 (bases 1 to 466)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Neonectria galligena.
Neonectria galligena
Eukaryota; Funci; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; Mectriaceae; Neonectria.
1 (bases 1 to 466)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AJ228664.1 GI:4210759

18S ribosomal RNA; 18S rRNA gene; 28S ribosomal RNA; 28S

5.8S ribosomal RNA; 5.8S rRNA gene; internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Langrell,S.R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Langrell,S.R.H.
                                                                                                                                          107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       107
                                               Conservative
                                                                                                                                                                         /gene="28S rRNA gene"
463. .466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="internal transcribed spacer 2 (ITS 463...>466
//gene="28S rRNA gene"
463...466
//gene="28S rRNA gene"
142 c 111 g 106 t
                                                                                                                                                                                                    /note="internal transcribed 463...>466
                                                                                                                                                                                                                                   /gene="5.8S rRNA gene"
298. .462
                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Neonectria galligena"
/isolate="MUCL 40716"
/db_xref="taxon:56674"
                                                                                                                                     /gene="28S rRNA gene"
142 c 111 g
                                                                                                                                                                                                                                                                               /gene=
                                                                                                                                                                                                                                                                                                                                        /gene="18S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ocation/Qualifiers
                                                                                                                                                                                                                                                                                                            'note="internal transcribed spacer 1 (ITS 1)"
                                                                                                                                                                                                                                                                                                                                                                        'gene="18S rRNA gene"
                                                                                                                                                                                                                                                                                                                                 . 139
                                                             91.18;
94.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         91.18;
94.48;
                                                                                                                                                                                                                                                                    . 297
                                                                                                                                                                                                                                                                               5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                             Score 16.4;
Pred. No. 88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 16.4;
Pred. No. 88;
                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
```

밁 ó

KEYWORDS

FEATURES

106

4

spacer 2 (ITS 2)

DB

8;

Length 466

1.

Indels

0

Gaps

밁

365 TCTAGTGGCGGTCTCGCT

```
RESULT 10
NGA228665
                                       VERSION
KEYWORDS
                                                                                                                                     RESULT 11
NGA228666
                                                                                                                                                                                                                                                                                                                         BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOURCE
ORGANISM
                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
 SOURCE
                                                                   ACCESSION
                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                 Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                  gene
                                                                                                                                                                                                                                                                                                                                                                                              rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                          misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                365 TCTAGTGGCGGTCTCGCT 382
                                                                                                                                                                                                                1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Direct Submission
Submitted (07-APR-1998) Langrell, S.R.H., Dep
Sciences, Wye College, University of London,
TN25 5AH, UNITED KINGDOM
2 (bases 1 to 466)
                                                                               NGAZ28666 466 bp rRNA linear PLN 01-FEB-1999 Nectria galligena internal transcribed spacer 1 (ITS 1), 5.8S rRNA gene, and internal transcribed spacer 2 (ITS 2) (isolate IMI 378754).
                                                                                                                                                                                                                                                    l Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NGA228665
466 bp rRNA linear PLN 01-FEB-1999
Nectria galligena internal transcribed spacer 1 (ITS 1), 5.8S rRNA
gene, and internal transcribed spacer 2 (ITS 2) (isolate MUCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Neonectria galligena
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
Hypocreales; Nectriaceae; Neonectria.
1 (bases 1 to 466)
Neonectria galligena
                        AJ228666.1 GI:4210761
18S ribosomal RNA; 18S rRNA gene; 28S ribosomal RNA; 28S
5.8S ribosomal RNA; 5.8S rRNA gene; internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Neonectria galligena.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AJ228665.1 GI:4210760
18S ribosomal RNA; 18S rRNA gene;
5.8S ribosomal RNA; 5.8S rRNA gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Langrell,S.R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Langrell,S.R.H.
                                                                                                                                                                                                                                                                                                                                      107
                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                             /note="
                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="5.8S rRNA gene"
298. .462
                                                                                                                                                                                                                                                                                                                                   /gene="28S rRNA gene"
142 c 111 g
                                                                                                                                                                                                                                                                                                                                                                 /gene="28S rRNA gene"
463. .466
                                                                                                                                                                                                                                                                                                                                                                                                                                                      /gene="
140...2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="18S rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Neonectria galligena"
/isolate="MUCL 40782"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="internal transcribed spacer 1 (ITS 1)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /gene="18S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /db_xref="taxon:56674"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ocation/Qualifiers
                                                                                                                                                                                                                                                                 91.18;
                                                                                                                                                                                                                                                                                                                                                                                              .>466
                                                                                                                                                                                                                                                                                                                                                                                                                                                      . 297
                                                                                                                                                                                                                                                                                                                                                                                                           internal transcribed spacer 2 (ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5.8S rRNA gene"
                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                 Score 16.4;
Pred. No. 88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene"
                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene;
                                                                                                                                                                                                                                                                                                                                        106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28S ribosomal RNA; 28S e; internal transcribed
                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Department of Biological on, Wye, Ashford, Kent.,
                                                                                                                                                                                                                                                                               Length 466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sordariomycetes;
                                                                                                                                                                                                                                                      0;
                           rRNA gene;
spacer;
                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    spacer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rRNA gene;
                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                             SOURCE
ORGANISM
                                                                                                                                                                                                                                                   ACCESSION
VERSION
KEYWORDS
                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                  RESULT 12
NGA228667
                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                           FEATURES
                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                     FOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                            JOURNAL
                                                                                                                                     AUTHORS
                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  107
```

```
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           365 TCTAGTGGCGGTCTCGCT 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 tctagtgacggtctcgct 18
                                                                                       Direct Submission
Submitted (07-APR-1998) Langrell,
Sciences, Wye College, University
TN25 5AH, UNITED KINGDOM
2 (bases 1 to 466)
                                                                                                                                                                                                                                                                                                                                                                                           NGAZZ8567 466 bp rRNA linear PLN 01-FEB-1999 Nectria galligena internal transcribed spacer 1 (ITS 1), 5.8S rRNA gene, and internal transcribed spacer 2 (ITS 2) (isolate MUCL 40717).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    l Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (07-APR-1998) Langrell, Sciences, Wye College, University TN25 5AH, UNITED KINGDOM 2 (bases 1 to 466)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Neonectria galligena
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; Nectriaceae; Neonectria.
                                                                                                                                                                                                                   Neonectria galligena
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; Nectriaceae; Neonectria.
                                                                                                                                                                                                                                                                                                          AJ228667.1 GI:4210762
18S ribosomal RNA; 18S rRNA gene; 28S ribosomal RNA; 28S
5.8S ribosomal RNA; 5.8S rRNA gene; internal transcribed
                                                      Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
                                                                                                                                                                                  Langrell, S.R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Langrell, S.R.H.
                                                                         Langrell,S.R.H.
                                                                                                                                                                                                                                                                             Neonectria galligena.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 466)
                                                                                                                                                                                                       (bases 1 to 466)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /63...466
/gene="28S rRNA gene"
a 142 c 111 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="internal transcribed 463. .>466
/organism="Neonectria galligena"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="28S rRNA gene"
163. .466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             298. .462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                140. .297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /db_xref="taxon:56674"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Neonectria galligena"
/isolate="IMI 378754"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene="5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="internal transcribed spacer 1 (ITS 1)"
                                ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'gene="5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene="18S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'gene="18S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    91.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 16.4;
Pred. No. 88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S.R.H., Dep
of London,
                                                                                                                               of London,
                                                                                                                                               S.R.H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        spacer 2 (ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1;
                                                                                                                             Department of Biological on, Wye, Ashford, Kent.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Department of Bion, Wye, Ashford,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Biological
                                                                                                                                                                                                                                                                                                                  spacer;
                                                                                                                                                                                                                                                                                                                                   rRNA gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
```

```
JOURNAL FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 13
NGA228668
                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                     AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                      gene
                                                     gene
                                                                                rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                 rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rRNA
                        misc_RNA
                                                                                                            misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                365 TCTAGTGGCGGTCTCGCT 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                           Submitted (07-APR-1998) Langrell, S.R.H., Department of Biological Sciences, Wye College, University of London, Wye, Ashford, Kent., TN25 5AH, UNITED KINGDOM 2 (bases 1 to 466)
                                                                                                                                                                                                                                                                                                                                                          Neonectria galligena.
Neonectria galligena
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
Hypocreales; Nectriaceae; Neonectria.
1 (bases 1 to 466)
                                                                                                                                                                                                                                                                                                                                                                                                                                          AJ228668.1 GI:4210763

18S rlbosomal RNA; 18S rRNA gene; 28S rlbosomal RNA; 28S rRNA gene;
5.8S rlbosomal RNA; 5.8S rRNA gene; internal transcribed spacer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    l Similarity
17; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NGA228668

466 bp rRNA linear PLN 01-FEB-1999
Nectria galligena internal transcribed spacer 1 (ITS 1), 5.8S rRNA
gene, and internal transcribed spacer 2 (ITS 2) (isolate MUCL
                                                                                                                                                                                                                                                 Unpublished
                                                                                                                                                                                                                                                                                                                                Langrell, S.R.H.
Direct Submission
                                                                                                                                                                                                                                                               Langrell,S.R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AJ228668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                          /gene="5.8S rRNA gene"
298. .462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  463. .466
/gene="28S rRNA gene"
142 c 111 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /gene="18S rRNA
5, .139
/note="internal transcribed spacer 2 (ITS
463. .>466
                                                                                /note="internal transcribed spacer 1
140. .297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="
298...4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="internal transcribed
140. .297
                                                                                                                       /gene="18S rRNA gene"
                                                                                                                                                                             /db_xref="taxon:56674"
                                                                                                                                                                                           /organism="Neonectria galligena"
/isolate="MUCL 40784"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="28S rRNA gene"
463. .466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="internal transcribed spacer 2 (ITS
463. .>466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="5.8S rRNA gene"
140. .297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene-*18S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /isolate="MUCL 40717"
/db_xref="taxon:56674"
                                                                 'gene="5.8S rRNA gene"
                                                                                                                                                 /gene="18S rRNA gene"
                                                                                                                                                                                                                                    ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                91.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5.8S rRNA gene*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 16.4; D
Pred. No. 88;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            , gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     106 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        spacer 1 (ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 466;
             2) "
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 14
NGA228669
           밁
                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                    BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                            gene
                                                                                                                                                                           gene
                                                                                                                                                                                                                                                           gene
                                                                                                                                                                                                                                                                                        rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene
                                                                                                                                                                                                                               misc_RNA
                                                                                                                                                                                                                                                                                                                  misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                source
           365
```

ş 밁

```
Query Match
Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        365 TCTAGTGGCGGTCTCGCT 382
                                                             Local Similarity 94.4 ies 17; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tctagtgacggtctcgct 18
TCTAGTGGCGGTCTCGCT 382
               tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (07-APR-1998) Langrell, Sciences, Wye College, University TN25 5AH, UNITED KINGDOM 2 (bases 1 to 466)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Neonectria galligena
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; Neotriaceae; Neonectria.
1 (bases I to 466)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AJ228669.1 GI:4210764

18S ribosomal RNA; 18S rRNA gene; 28S ribosomal RNA; 28S rRNA gene;
5.8S ribosomal RNA; 5.8S rRNA gene; internal transcribed spacer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Langrell, S.R.H.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nectria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Neonectria galligena.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NGA228669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Langrell, S.R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         107
                                                                                                                                                                107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28669 466 bp rRNA linear PLN 01-FEB-1999 ria galligena internal transcribed spacer 1 (ITS 1), 5.8S rRNA and internal transcribed spacer 2 (ITS 2) (isolate ICMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="28S rRNA gene"
463. .466
/gene="28S rRNA gene"
a 142 c 111 g
                                                                                                                                                           /gene="28S rRNA gene"
142 c 111 g
                                                                                                                                                                                                /gene="28S rRNA gene"
463. .466
                                                                                                                                                                                                                             /note="internal transcribed 463. .>466
                                                                                                                                                                                                                                                              /gene="5.8S rRNA gene" 298. .462
                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Neonectria galligena"
/isolate="ICMP 13269"
/db_xref="taxon:56674"
                                                                                                                                                                                                                                                                                                             /gene="5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                              /note="internal transcribed
                                                                                                                                                                                                                                                                                                                                                                           /gene="18S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                             /gene="18S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                             . 297
                                                                              91.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       91.18;
                                                               Score 16.4; E
Pred. No. 88;
0; Mismatches
                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 16.4;
Pred. No. 88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                            106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S.R.H., Department of Biological of London, Wye, Ashford, Kent.,
                                                                                               DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DВ
                                                                                                                                                                                                                                             spacer
                                                                                                                                                                                                                                                                                                                                              spacer 1 (ITS
                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 466;
                                                                                            Length 466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                               Gaps
                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

```
Search completed: August 21, 2002, 22:09:50 Job time: 14204 sec
                                                                                  ₽
                                                                                                                ş
                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
JOURNAL
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 15
NGA228670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCUS
DEFINITION
                                                                                                                                             Query Match 91.1%;
Best Local Similarity 94.4%;
Matches 17; Conservative
                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                                                               gene
                                                                                                                                                                                                                                                                                                                 rRNA
                                                                                                                                                                                                                                                                                                                                              misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                              rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene
                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_RNA
                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Neonectria galligena.

Neonectria galligena

Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;

Hypocreales; Nectriaceae; Neonectria.

1 (bases 1 to 466)

Langrell, S.R.H.

Direct Submission

Submitted (07-APR-1998) Langrell, S.R.H., Department of Biological Sciences, Wye College, University of London, Wye, Ashford, Kent.,

TN25 SAH, UNITED KIGDOM

2 (bases 1 to 466)

Langrell, S.R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AJ228670.1 GI:4210765
18S ribosomal RNA; 18S rRNA gene; 28S ribosomal RNA; 28S
5.8S ribosomal RNA; 5.8S rRNA gene; internal transcribed ITS1; ITS2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           466 bp rRNA linear PLN 01-FEB-1999 Nectria galligena internal transcribed spacer 1 (ITS 1), 5.8S rRNA gene, and internal transcribed spacer 2 (ITS 2) (isolate CBS 100325).
                                                                                                                                                                                                                                                 107
                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                          /gene="28S rRNA gene"
463. .466
/gene="28S rRNA gene"
a 142 c 111 g 1
                                                                                                                                                                                                                                                                                                           /gene="5.8S rRNA gene"
298. 462
700te="internal transcribed spacer 2 (ITS 2)"
463. >466
                                                                                                                                                                                                                                                                                                                                                                                                                                             /gene="18S rRNA gene"
5. .139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Neonectria galligena"
/isolate="CBS 100325"
/db_xref="taxon:56674"
                                                                                                                                                                                                                                                                                                                                                                                                                    /note="internal transcribed spacer 1 (ITS 1)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="18S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                            gene-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                           "5.8S rRNA gene"
                                                                                                                                             Score 16.4; D
Pred. No. 88;
O; Mismatches
                                                                                                                                                                                                                                             106 t
                                                                                                                                                                            DB 8;
                                                                                                                                                                            Length 466;
                                                                                                                                             Indels
                                                                                                                                           0;
                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rRNA gene;
spacer;
                                                                                                                                         0;
```

```
Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Searched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB seq length: 0
DB seq length: 2000000000
          Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1980.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1981.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1981.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1982.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1983.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1983.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1985.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1985.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1985.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1985.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1987.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1999.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1999.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1999.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1991.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1993.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA2000.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA2000.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA2000.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-emb1/NA2000.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N_Geneseq_032802:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-046-955-49
18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   August 21, 2002, 22:22:42 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1736436 seqs, 858457221 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GenCore version Copyright (c) 1993 - 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Search time 594.49 Seconds (without alignments) 51.985 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4.5
Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3472872
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

		ď				
Result No.		Query Match		₽B	ID	Description
<u>.</u>	18	100.0		20	AAV83696	Species-specific p
2	16.4	91.1	310	20	AAV70851	Internal transcrib
ω	16.4	91.1	502	21	AAA61893	Fusarium sp. MF638
4	16.4	91.1	2293	23	AAS16211	Fungus genomic DNA
5	15.4	85.6	744	21	AAC42796	Arabidopsis thalia
ი 6	15	83.3	1182	19	AAT99142	s-adenosylmethioni
7	15	83.3	1596	23	AAS88320	DNA encoding novel
ი 8	14.8	82.2	506	22	AAD08445	Human secreted pro
c 9	14.8	82.2	1502	22	AAD08412	Human secreted pro

PECIT.			4	4	_	4	4		c 38									29	28	27	26	25		c 23	22	21	20	19	18	17	16	15		c 13		11	10
<u>.</u>		14		14				14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14				14.4	14.4	14.4	14.4	14.4	14.4	14.4
									77.8	•	77.8	77.8	77.8	77.8	77.8	77.8	77.8	77.8	77.8		77.8	77.8			77.8		77.8	77.8	77.8	77.8	80.0				80.0	80.0	80.0
		798	798	780	777	735	735	717	699	666	666	649	645	642	639	636	615	550	550	550	550	550	550	489	479	479	479	479	479	479	46899	3116	2982	1146		51	
		15	13	21	17	16	16	16	22	17	5	21	16	20	16	17	15	22	22	22	22	22	22	22	22	22	22	22	22	22	15	22	22	22	22	22	22
	ALIGNMENTS	AAQ44642	AAQ30706	AAA27848	AAT42507	AAQ92502	AAQ92500	AAQ92504	AAH77315	AAT87817	AAQ73443	AAZ59451	AAQ80293	AAZ28805	AAQ80291	AAT87815	AAQ62632	AAI43123	AAI18119	AAK37292	AAK11513	ABA30343	ABA63091	ABA08494	AAI56113	AAI27255	AAK50175	AAK24114	ABA40157	ABA75543	AAQ54386	AAH54884	AAH54021	AAH53831	95	5	AAI74530
		Fd phage clone seq	ce of Clor	WOW-1 Fab heavy ch	Murine A5B57 Fd fr	antibody F	Mouse antibody FB3	Mouse antibody H3-			6D9 antibody heavy	Antibody Fab fragm	Monoclonal antibod	Coding sequence fo	Monoclonal antibod	Antibody 7G12 heav	Porphyrin antibody		Probe #8052 for ge		brain		_		#24799 used		bone marrow	brain expre	#18623	Ē	. niveum Cycl	. epidermidis	. epidermidis	. epidermidis	idermidis op	silent	Human silent SNP c

```
AAV83696
ID AAV8
X PEX NO CONTRACTOR OF THE STREET CONTRACTOR O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Internal transcribed spacer 2; ITS2; probe; Aspergillus flavus; A. niger; A. terreus; A. nidulans; Fusarium solani; F. moniliforme; Mucor rouxii; M. racemosus; M. plumbeus; M. indicus; A. funigatus; M. circinilloides f. circinelloides; Rhizopus oryzae; R. microsporus; R. circinans; R. stolonifer; Rhizomucor pusillus; Absidia corymbifera; Cunninghamella elegans; Pseudallesheria boydii; Scedosporium apiospermum; Penicillium notatum; Sporothrix schenkii; filamentous fungus; ss.
                                         01-MAY-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Key
modified_base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Species-specific probe targeted to the internal transcribed spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAV83696 standard; DNA; 18 BP.
                                                                                                                                                  12-NOV-1998.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fusarium moniliforme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAV83696;
                                                                                                                                                                                                                                                WO9850584-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                         98WO-US08926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                   /*tag=  a
/note= "labelled with digoxigenin"
                                                                                                                                                                                                                                                                                                                                                                                                  /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N
```

```
RESULT
AAV70851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Probes AAV83677-708 are derived from the internal transcribed spacer 2 (1TS2) region of various filamentous fungi (see AAV70845-73). The probes are species-specific, and can be used for identifying a species selected from Aspergillus flavus, A. fumigatus, A. niger, A. terreus, A. nidulans, Fusarium solani, F. moniliforme, Mucor rouxii, M. racemosus, M. plumbeus, M. indicus, M. circinilloides f. circinelloides, Rhizopus oryzae, R. microsporus, R. circinans, R. stolonifer, Rhizomucor pusillus, Absidia corymbifera, Cunninghamella elegans, Pseudallesheria boydii (teleomorph of Scedosporium apiospermum), Penicillium notatum, or Sporothrix schenkii. The probes can be used for differentiating finantous fungal species from each other and from other medically important funci
                                                                                                                                                                                                                           Internal transcribed spacer 2; ITS2; probe; Aspergillus flavus; A. niger; A. terreus; A. nidulans; Fusarium solan1; F. moniliforme; Mucor rouxil; M. racemosus; M. plumbeus; M. indicus; A. funigatus; M. circinilloides f. circinelloides; Rhizopus oryzae; R. microsporus; R. circinans; R. stolonifer; Rhizomucor pusillus; Absidia corymbifera; Cunninghamella elegans; Pseudallesheria boydii; Scedosporium apiospermum; Penicillium notatum; Sporothrix schenkii; filamentous fungus; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Aspergillus, Fusarium, Mucor, Rni:
Cunninghamella, Pseudoallescheria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 1; Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New nucleic acid probes for filamentous fungi - for detecting e.g.
Aspergillus, Fusarium, Mucor, Rhizopus, Rhizomucor, Absidia,
Cunninghamella, Pseudoallescheria boydii, Penicillium and Sporothrix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Aidorevich L,
                                                                                   02-MAY-1997;
                                                                                                                01-MAY-1998;
                                                                                                                                                                       W09850584-A2
                                                                                                                                                                                                    Fusarium
                                                                                                                                                                                                                                                                                                                                                                           26-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                   AAV70851 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 18 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-MAY-1997;
                                                                                                                                           12-NOV-1998
                                                                                                                                                                                                                                                                                                                                              Internal transcribed spacer 2 (ITS2) and adjacent regions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sn (HSSn)
                                                     (USSH ) US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1999-034737/03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                l Similarity
18; Conser
                                                                                                                                                                                                  moniliforme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 fungi.
                                                     DEPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEPT HEALTH & HUMAN SERVICES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; ilarity 100.0%; Conservative C
                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                           Choi JS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Choi JS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   97US-0045400
                                                                                  97US-0045400
                                                                                                                98WO-US08926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N
                                                      HEALTH & HUMAN SERVICES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22; 45pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Α,
                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ç
                                                                                                                                                                                                                                                                                                                                                                                                                                     310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Morrison CJ, Reiss E;
                           Morrison CJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ი
ი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 18; [
Pred. No. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0 other
                           Reiss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB
1.9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
```

```
AAA61893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            which are species specific. The specification also describes ITS2 sequence-derived probes for identifying a species selected from Aspergillus flavus, A. fumigatus, A. niger, A. terreus, A. nidulans, Fusarium solani, F. moniliforme, Mucor rouxii, M. racemosus, M. plumbeus, M. indicus, M. circinilloides f. circinelloides, Rhizopus oryzae, R. microsporus, R. circinans, R. stolonifer, Rhizomucor pusillus, Absidia corymbifera, Cunninghamella elegans, Pseudallesheria boydii (teleomorph of Scedosporium apiospermum), Penicillium notatum, or Sporothrix schenkii. The probes can be used for differentiating filamentous fungal species from each other and from other medically
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New nucleic acid probes for filamentous fungi – for detecting e.g. Aspergillus, Fusarium, Mucor, Rhizopus, Rhizomucor, Absidia, Cunninghamella, Pseudoallescherla boydii, Penicillium and Sporothrix species.
                                                                                                                                                                                                                                                                                                                          Ribosomal DNA; rDNA ITS region; internal transcribed spacer; ATCC 74469; HIV integrase inhibitor; steroid compound; human immunodeficency virus; acquired immunodeficiency syndrome; AIDS; ARC; AIDS-related complex; symptomatic infection; potential HIV exposure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence represents an internal transcribed spacer 2 (ITS2) and adjacent regions. Probes can be derived from the present sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1;
                                                                                                                             Singh SB,
                                                                                                                                                                                                           09-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                AAA61893;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 310 BP;
                                                                                                                                                       (MERI ) MERCK & CO INC
                                                                                                                                                                                  14-DEC-1998;
                                                                                                                                                                                                                                                              WO200036132-A1
                                                                                                                                                                                                                                                                                     Fusarium sp. MF6381.
                                                                                                                                                                                                                                                                                                              combination therapy; ds.
                                                                                                                                                                                                                                                                                                                                                                                          Fusarium sp.
                                                                                                                                                                                                                                                                                                                                                                                                                      14-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAA61893 standard;
                                                                                                                    Dombrowski
                                                                                                                                                                                                                                   22-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    important
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 tctagtgacggtctcgct
                                                steroid compounds are HIV integrase inhibitors used infection and \ensuremath{\mathsf{AIDS}} -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tctagtggcggtctcgct 191
                                                                                        2000-431606/37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Page 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  fungi.
                                                                                                                             Zink DL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                           MF6381 rDNA internal transcribed spacer (ITS) region
                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                98US-0112168
                                                                                                                                                                                                           99WO-US29356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      45pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      91.18;
                                                                                                                               Hazuda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ç;
                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ΒP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ç
                                                                                                                               Felock PJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16.4; |
No. 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Τ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
                                                                                                                               Polishook JD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                              for treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
```

The invention relates to

novel steroid

compounds

derived

from

the

Disclosure; Page 14; 113pp; English

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
     AAS16211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fusarium sp. MF6381. The invention also relates to a composition comprising a compound of the invention in combination with an AIDS antiviral agent, an immunomodulator and an antiinfective agent. The compounds of the invention may be used in the inhibition of HIV integrase and in the prevention and treatment of HIV infection. A wide range of state of HIV infection may be treated: AIDS (acquired immunodeficiency syndrome); ARC (AIDS-related complex); both symptomatic and asymptomatic HIV infection; and actual or potential exposure to HIV. The compounds may be used to isolate HIV integrase mutants which are potentially useful as screening tools for antiviral compounds. The compounds may also be used to establish or determine the site at which the strength of the compounds of the 
                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gibberellin; 18S rRNA; internal transcribed spacer region; ITS1; ITS2; 5.8S rRNA; LTB-1027; species differentiation; GA_4; GA_3; GA_7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAS16211 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 other antivirals bind to HIV integrase (e.g., by competitive inhibition). The present sequence represents the ribosomal DNA (rDNA) internal transcribed spacer (ITS) region of Fusarium sp. MF6381, which may be used
                                                                                                                                                                                              US6287800-B1
                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gibberella fujikuroi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ITS2; 5.8S rRNA; LTB-1027; species differ flowering; fruit cell elongation; apple;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fungus genomic DNA spanning 18S, 5.8S and 28S rRNA and ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29-JAN-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           African soil fungus Fusarium sp. MF6381 (ATCC 74469) which act as inhibitors of HIV integrase. The invention encompasses cultures o
(GALL/) GALLAZZO J L
                                                  31-AUG-1999;
                                                                                               23-AUG-2000;
                                                                                                                                                 11-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        russet control; fungus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 502 BP; 127 A; 144 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 tctagtgacggtctcgct 18
||||||| |||||||||||
371 tctagtggcggtctcgct 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             characterise MF6381.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            l Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                 2000US-0645073
                                                  99US-151770P
                                                                                                                                                                                                                                                                                                                                                              /note= "5.8S rRNA gene"
2079..2243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag= a
/note= "18S rRNA gene"
1775..1921
                                                                                                                                                                                                                                                                                          /note= "ITS2 region"
2244..2293
                                                                                                                                                                                                                                                                                                                                                                                                                                       1922..2078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                             /note- "28S rRNA gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                             'note- "ITS1 region"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 91.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 16.4;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                118 G; 113 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               pear; grape; fruit;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 502;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
```

```
AAC42796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 17
25-FEB-1999
05-MAR-1999
09-MAR-1999
23-MAR-1999
25-MAR-1999
29-MAR-1999
01-APR-1999
01-APR-1999
116-APR-1999
116-APR-1999
21-APR-1999
21-APR-1999
23-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This sequence represents a genomic DNA sequence containing the 185 rRNA gene, internal transcribed spacer regions I and 2 (ITS1, ITS2) and 5.85 rRNA sequences from a mutant strain of Gibberella fukikoroi (LTB-1027) of the invention. This region of DNA is highly variable and can be used for species and strain differentiation. The LTB-1027 mutant produces a mixture of gibberelling which is at least 70 % GA 4 and GA_7. Gibberellins GA_4 and GA_7 promote flowering and fruit cell elongation, and are used by growers of apples, pears and grapes to produce larger fruits and earlier harvests. The mixture of GA_3, GA_4 and GA_7 achieved using the method of this invention should be particularly useful in the apple industry where GA_4 has been found more effective in russet control and in promoting fruit set. This method produces GA_4 and GA_7 in much higher titers than prior art methods.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A new method for producing a mixture of gibberellins from Gibberella fujikuroi results in high titers of GA4 and GA7 useful to promote flowering and fruit growth in the fruit growing industry \,\cdot\,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gallazzo JL,
                                                                                                                                                                                                                                                                                                                    Hybridisation assay; genetic mapping; gene expression control; protein identification; signal transduction pathway;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2001-662197/76.
                                                                                                                                                                                              25-FEB-2000;
                                                                                                                                                                                                                         06-SEP-2000
                                                                                                                                                                                                                                                                               Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                          metabolic
                                                                                                                                                                                                                                                                                                                                                               Arabidopsis thaliana DNA fragment SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                            17-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                        AAC42796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAC42796 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (LEEM/) LEE M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 tctagtgacggtctcgct 18
||||||| ||||||||||
| 15 tctagtggcggtctcgct 2162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         l Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                         pathway; promoter; termination sequence; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Column 9-12; 7pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                              2000EP-0301439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ВP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lee MD
            99US-0126785.
99US-0127462.
99US-0128234.
99US-0128714.
99US-0129845.
99US-0130077.
99US-0130449.
                                                                                                            99US-0123180.
99US-0123548.
99US-0125788.
99US-0126264.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             596 A; 527 C; 592 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        91.18;
94.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  744 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16.4;
No. 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             578 T; 0
                                                                                                                                                                                                                                                                                                                                                                 NO: 36883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 2293;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
```

0;

	, , , , , , , , , , , , , , , , , , ,	PR
	28-APR. 1999 30-APR. 1999 11-MAY. 1999 11-MAY. 1999 11-MAY. 1999 11-MAY. 1999 21-MAY. 1999 22-MAY. 1999 23-JUN. 1999 16-JUN. 1999 18-JUN. 1999 1999 1999 1999 1999 1999 1999 199	99
90S-014400 90S-014400 90S-014400 90S-014430 90S-014433 90S-014433 90S-014433 90S-014433 90S-014433	990S-0132449. 990S-0132484. 990S-0132485. 990S-0132486. 990S-0132485. 990S-0134218. 990S-0134218. 990S-0134219. 990S-0134219. 990S-0134219. 990S-0135353. 990S-0135523. 990S-0135523. 990S-0136021. 990S-0137522. 990S-0137522. 990S-0138044. 990S-0139454. 990S-0139454. 990S-0139454. 990S-0139454. 990S-0139453. 990S-0139453. 990S-0139453. 990S-0139453. 990S-0139453. 990S-0139453. 990S-0139453. 990S-0139454. 990S-0139459. 990S-0140259. 990S-0142390. 990S-0142390. 990S-0142390. 990S-0142390.	9US-013089
		
יטי טי	אים שר	PR
5-OCT-199 6-OCT-199 8-OCT-199 2-OCT-199 3-OCT-199 3-OCT-199 3-OCT-199 4-OCT-199 4-OCT-199	21-JUL-1999; 22-JUL-1999; 22-JUL-1999; 22-JUL-1999; 22-JUL-1999; 22-JUL-1999; 22-JUL-1999; 23-JUL-1999; 23-JUL-1999; 23-JUL-1999; 26-JUL-1999; 27-JUL-1999; 27-JUL-1999; 27-JUL-1999; 28-JUL-1999; 28-JUL-1999; 29-AUG-1999; 20-AUG-1999; 20-AUG-1999; 20-AUG-1999; 20-AUG-1999; 20-AUG-1999; 20-AUG-1999; 20-AUG-1999; 20-AUG-1999; 20-AUG-1999; 21-AUG-1999; 21-AU)-JUL-199
903-01578 903-01578 903-0158 903-0158 903-0158 903-0159 903-0159 903-0159 903-0159 903-0159 903-0159 903-0159	99US-0144814. 99US-0145088. 99US-0145088. 99US-0145089. 99US-0145145. 99US-0145218. 99US-0145218. 99US-0145218. 99US-0145218. 99US-0145218. 99US-0145218. 99US-0145918. 99US-0145918. 99US-0145918. 99US-0146386. 99US-0147260. 99US-0147260. 99US-0147303. 99US-0147416. 99US-0147416. 99US-0147416. 99US-01474935. 99US-0148341. 99US-0149368. 99US-0149368. 99US-0149368. 99US-0149368. 99US-0149368. 99US-0149368. 99US-0149368. 99US-0149368. 99US-014936. 99US-0149368. 99US-0149368. 99US-0151066. 99US-0151303. 99US-0151303. 99US-0151303. 99US-0151303. 99US-01553758. 99US-01553758. 99US-01554018.	9US-014488

ş

```
RESULT 6
AAT99142/c
                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-OCT-1999;
25-OCT-1999;
25-OCT-1999;
26-OCT-1999;
26-OCT-1999;
26-OCT-1999;
28-OCT-1999;
28-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21-OCT-1999
21-OCT-1999
21-OCT-1999
21-OCT-1999
21-OCT-1999
21-OCT-1999
22-OCT-1999
22-OCT-1999
22-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14-OCT-1999;
18-OCT-1999;
                                                                      S-adenosyl-methionine synthase gene - useful in producing plants resistant to alkaline soil
                                                                                                                                                                                                                                             S-adenosylmethionine synthase 2 gene; barley; alkali resistant plant;
                                                                                                                                                                                                                                                               S-adenosylmethionine synthase 2
                                                                                                                                                                                                                                                                                                   AAT99142;
                                                                                                                                                                                                                                                                                                                   AAT99142 standard;
                          This sequence represents the S-adenosylmethionine synthase 2 (sam2) gene. This DNA sequence may be used in a vector to produce plants which
                                                   Claim 5; Page 9-10; 13pp; Japanese.
                                                                                               WPI; 1998-080077/08.
P-PSDB; AAW34541.
                                                                                                                                                                                                                  Hordeum vulgare
                                                                                                                                                                                                                                                                                 26-MAR-1998
Sequence 1182 BP;
                  are resistant to alkaline soil.
                                                                                                                          (NIOC ) NIPPON OIL CO
                                                                                                                                             28-MAY-1996;
                                                                                                                                                             28-MAY-1996;
                                                                                                                                                                                09-DEC-1997.
                                                                                                                                                                                                                                                                                                                                                              2 ctagtgacggtctcgct 18
|||||| ||||||||||
218 ctagtgccggtctcgct 234
                                                                                                                                                                                                                                     SS
                                                                                                                                                                                                                                                                                                                                                                                                  1 Similarity 94.1
                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        990S-0160989.
990S-0161404.
990S-0161405.
990S-0161405.
990S-0161359.
990S-0161360.
990S-0161361.
                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0161992.
99US-0161993.
99US-0162142.
                                                                                                                                             96JP-0133406
                                                                                                                                                               96JP-0133406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0160981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0160980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9905-0160814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-0160770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9905-0160768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99US-0160741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-0159638
99US-0159584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9908-0160815
261
                                                                                                                                                                                                                                                                                                                    cDNA to
                                                                                                                                                                                                                                                                                                                                                                                                             85.6%;
94.1%;
A; 368 C;
                                                                                                                                                                                                                                                                                                                   mRNA; 1182
                                                                                                                                                                                                                                                                                                                                                                                                    0,:
                                                                                                                                                                                                                                                                                                                                                                                                            Score 15.4; DB Pred. No. 70;
324
                                                                                                                                                                                                                                                               gene
                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
ი
ი
                                                                                                                                                                                                                                                                                                                     ВP
 229
T; 0
                                                                                                                                                                                                                                                                                                                                                                                                                      21;
 other
                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                     744;
                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                     0;
```

Query Match Best Local Similarity

83,3%;

Score 15; Pred. No.

1.2e+02;

DB 19; Length 1182;

Query Match
Best Local Similarity
Matches 15; Conserv

Conservative

0

Mismatches

0

0;

Gaps

0

83.3%; 100.0%;

Score 15; Di ; Pred. No. 1

DB 23; .2e+02

Length 1596; Indels

```
RESULT
AAS88320
ID AAS8
XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     日
                                                                            polypeptide (II) sequences. (I) is useful as hybridisation probes, CC polymerase chain reaction (PCR) primers, oligomers, and for chromosome CC and gene mapping, and in recombinant production of (II). The CC polynucleotides are also used in diagnostics as expressed sequence tags CC for identifying expressed genes. (I) is useful in gene therapy techniques CC (II). (II) is useful for generating antibodies against it, detecting or CC (Quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating CC disorders involving aberrant protein expression or biological activity. The polypeptide and polynucleotide sequences have applications in CC diagnostics, forensics, gene mapping, identification of mutations CC responsible for genetic disorders or other traits to assess biodiversity and sequences other types of data and products dependent on DNA and CC and to produce other types of data and products dependent on DNA and CC diagnostic coding sequences of the invention.

CC diagnostic coding sequences of this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO at fits wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; chromosome mapping; gene mapping; gene therapy; forensic;
food supplement; medical imaging; diagnostic; genetic disorder; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13-FEB-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAS88320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAS88320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New isolated polynucleotide and encoded polypeptides, useful diagnostics, forensics, gene mapping, identification of muta responsible for genetic disorders or other traits and to assure the contract of the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA encoding novel human diagnostic protein #24124
     Sequence 1596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to isolated polynucleotide (I) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1; SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2001-639362/73.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     31-MAR-2000;
23-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-MAR-2001; 2001WO-US08631.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200175067-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     145 TAGTGACGGTCTCGC 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3 tagtgacggtctcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    standard; cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Liu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0540217.
2000US-0649167.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ID No 24124; 103pp; English.
     BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'n
405 A; 350 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
462 G;
     379 T;
     0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of mutations
to assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
```

```
Ş
    RESULT 8
AAD08445/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; secreted protein; proliferative disorder; cancer; tumour; asthma; foetal abnormality; developmental abnormality; haematopoietic disorder; immune system disorder; AIDS; autoimmune disease; rheumatoid arthritis; parkinson's disease; cognitive disorder; schizophrenia; skin disorder; psoriasis; sepsis; diabetes; atherosclerosis; cardiovascular disorder; inflammation; neurological disorder; Alzheimer's disease; food additive; angiogenic disorder; kindery disorder; gastrointestinal disorder; allergy; pregnancy-related disorder; endocrine disorder; infection; wound healing; cell culture; chemotaxis; vulnerary; binding partner identification;
AADO8404-AADO8478 represent cDNAs corresponding to 24 human secreted protein genes, and AAEO4100-AAEO04170 represent the proteins they end AAEO4172-AAEO4197 represent human secreted protein fragments or variance.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAD08445 standard; cDNA; 506 BP
                                                                                         Nucleic acids encoding 24 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. Gaucher's disease, Alzheimer's disease, Scimitar syndrome, Creutzfeldt-Jacob disease diabetes mellitus and multiple sclerosis.
                                                                                                                                                                                                                                                                            12-NOV-1999; 99US-0164825.
03-AUG-2000; 2000US-0222904.
                                                                                                                                                                                                                                                                                                                            08-NOV-2000; 2000WO-US30629
                                                                                                                                                                                                                                                                                                                                                                                                                                                  mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAD08445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1378 agtgacggtctcgct 1392
                                                                                                                                                                                                                    Ruben SM, Komatsoulis
                                                                                                                                                                                                                                                 (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4
                                                                                                                                                                                       2001-374441/39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  agtgacggtctcgct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            therapy; chromosome 19; ss.
                                                                                                                                                                       AAE04140.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein-encoding gene 9 cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= 1
323..505
/*tag= 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /partial 269..322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product= "Human secreted protein precursor"
/transl_except= (pos:311.313, aa:Xaa)
/transl_except= (pos:329.331, aa:Xaa)
/transl_except= (pos:413.415, aa:Xaa)
/transl_except= (pos:461.463, aa:Xaa)
/transl_except= (pos:464.463, aa:Xaa)
/transl_except= (pos:464.466, aa:Xaa)
/note= "Xaa equals any of the naturally occurring
L-amino acids; CDS does not include stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers 269..505
                                                                                                                                                                                                                                                                                                                                                                                                                       /product=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18
                                                                                                                                                                                                                    GA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     σ
                                                              English
                                                                                                                                                                                                                                                                                                                                                                                                                       "Mature human secreted protein"
                                                                                                                                                                                                                  Soppet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HOVAF78,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID
    or variants
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NO:52.
```

```
ARESULT 9
AADO84
XX AADO84
AC AADO84
XX O9-AUG
XX O9-AUG
XX Human;
KW Human;
KW Foetal
KW inmune
KW profia
KW cell c
XX gene t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CC The secreted proteins and their genes are useful for preventing, treating CC or ameliorating medical conditions, e.g., by protein or gene therapy. CC Pathological conditions can be diagnosed by determining the amount of the CC new protein in a sample or by determining the presence of mutations in CC the new genes. Specific uses are described for each of the 24 genes, CC based on the tissues in which they are most highly expressed, and include CC developing products for the diagnosis or treatment of proliferative CC disorders, cancer, tumours, foetal and developmental abnormalities, CC haematopoietic disorders, diseases of the immune system, AIDS, autoimmune CC diseases (e.g., rheumatoid arthritis), inflammation, allergies, CC neurological disorders (e.g., Alzheimer's disease, Parkinson's disease), CC cognitive disorders, schizophrenia, asthma, skin disorders (e.g., CC prograncy-related disorders, endocrine disorders, and infections. The proteins can also be used to aid wound healing and epithelial cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                proliferation, to prevent skin aging due to sunburn, to maintain organs before transplantation, for supporting cell culture of primary tissues, to regenerate tissues, to identify their cognate ligands or binding partners, and in chemotaxis, and can be used as a food additive or preservative to modify storage properties. Antibodies specific for a protein of the invention can be used in alleviating symptoms associated with the disorders mentioned above, and in diagnostic immunoassays e.g., radioimmunoassay or enzyme linked immunosorbent assay (ELISA). The present sequence represents a human secreted protein-encoding cDNA of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            psoriamsis; sepsis; diabètes; atherosclerosis; cardiovascular disorder; inflammation; neurological disorder; Alzheimer's disease; food additive; anglogenic disorder; kidney disorder; gastrointestinal disorder; allergy; pregnancy-related disorder; endocrine disorder; infection; wound healing;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAD08412 standard; cDNA; 1502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      immune system disorder; AIDS; autoimmune disease; rheumatoid Parkinson's disease; cognitive disorder; schizophrenia; skin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; secreted protein; proliferative disorder; cancer; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human secreted protein-encoding gene 9 cDNA clone HOVAF78,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09-AUG-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAD08412;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           foetal abnormality; developmental abnormality; haematopoietic disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      379 TCTGGTGAAGGTCTCGCT 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity hes 16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 tctagtgacggtctcgct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      present sequence invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       culture;
                                                                                                                                                                                                                                                                                                                                                            sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                    therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BP;
                                                                                                                                                                                                                                                                                                                                                                                                                       chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                chemotaxis; vulnerary;
                                                                                                                                                                              /product=
269..322
                                                                                                                   /*tag= k
323..478
                                                                                                                                                                                                                                                                     Location/Qualifiers 269..481
                                                           /product-
                                                                                    /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        134 A; 117
                                                                                                                                                                                                                                            /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        82.2%;
                                                                                    o
                                                                                                                                                  b
                                                                                                                                                                                                                                                                                                                                                                                                                    19;
                                                                                                                                                                                                          "Human
                                                           "Mature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ç
                                                                                                                                                                                                                                                                                                                                                                                                                       ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 14.8;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                             secreted
                                                        human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ç;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           128
                                                           secreted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ..4e+02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ŧ;
                                                                                                                                                                                                       protein precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                   partner identification;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           other;
                                                        protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                asthma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NO:19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
```

WO200134643-A1

```
RESULT 1
AAI74530
                                                                                                                                                                                                                                                                                                                                                                                                                 ADD8404-AADD8478 represent cDNAs corresponding to 24 human secreted CC AAD04172-AAD04197 represent human secreted proteins they encode. CC AAD04172-AAD04197 represent human secreted protein fragments or variants. CC The secreted proteins and their genes are useful for preventing, treating CC rameliorating medical conditions, e.g., by protein or gene therapy. CC Pathological conditions can be diagnosed by determining the amount of the new genes. Specific uses are described for each of the 24 genes. Specific uses are described for each of the 24 genes. Second the trisques in which they are most highly expressed, and include developing products for the diagnosis or treatment of proliferative disorders, cancer, tumours, foetal and developmental abnormalities, cancer, tumours, foetal and developmental abnormalities, comparitive disorders, schizophrenia, asthma, skin disorders (e.g., rheumatoid arthritis), inflammation, allergies, compilitive disorders, schizophrenia, asthma, skin disorders (e.g., psoriasis), sepsis, diabetes, atherosclerosis, cardiovascular disorders, compilities, diabetes, atherosclerosis, cardiovascular disorders, cangiogenic disorders, kidney disorders, gastrointestinal disorders, correspondents, to prevent skin aging due to sunburn, to maintain organs before transplantation, for supporting cell culture of primary tissues, to regenerate tissues, to identify their cognate ligands or binding partners, and in chemotaxis, and can be used as a food additive or protein of the invention can be used in alleviating symptoms associated with the disorders mentioned above, and in disorders immunoscribat immunoscribates.
                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08-NOV-2000; 2000WO-US30629
Human silent SNP containing nucleic acid SEQ:1471.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     diabetes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nucleic acids encoding 24 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. Gaucher's disease, Alzheimer's disease, Scimitar syndrome, Creutzfeldt-Jacob disease,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12-NOV-1999;
03-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17-MAY-2001
                                 09-NOV-2001
                                                                 AAI74530;
                                                                                                  AAI74530 standard;
                                                                                                                                                                                                                                                                                                                                        Sequence 1502 BP;
                                                                                                                                                                                                                                                                                                                                                                                      radioimmunoassay or enzyme linked The present sequence represents a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ruben SM, Komatsoulis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                      379
                                                                                                                                                                                                                    1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2001-374441/39
                                                                                                                                                                                      TCTGGTGAAGGTCTCGCT 362
                                                                                                                                                                                                                                                     1 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Page 421-422; 532pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mellitus and multiple sclerosis -
                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99US-0164825.
2000US-0222904.
                               (first entry)
                                                                                                                                                                                                                                                                                                                                      377 A; 340
                                                                                                  DNA;
                                                                                                                                                                                                                                                                     82.2%;
88.9%;
                                                                                                    51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Soppet DR,
                                                                                                                                                                                                                                                       0,
                                                                                                                                                                                                                                                                       Score 14.8;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                        ű
                                                                                                                                                                                                                                                                                                                                        338
                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                        human secreted
                                                                                                                                                                                                                                                                                                                                        <u>و</u>
                                                                                                                                                                                                                                                                                                                                        447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Shi Y;
                                                                                                                                                                                                                                                                         .6e+02;
                                                                                                                                                                                                                                                                                        DВ
                                                                                                                                                                                                                                                                                                                                        T; 0
                                                                                                                                                                                                                                                                                       22;
                                                                                                                                                                                                                                                                                                                                          other;
                                                                                                                                                                                                                                                                                                                                                                                                          assay (ELISA)
                                                                                                                                                                                                                                                                                                                                                                                          protein-encoding cDNA of
                                                                                                                                                                                                                                                                                       Length 1502;
                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                     0
 밁
                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                        Query Match
          Human; single nucleotide polymorphism; SNP; genome; protein therapy; vaccine; probe; diagnostic assay; quantitation; restorative therapy; polymorphic; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Shimkets RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         07-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO200140521-A2
                                                                                 Human silent
                                                                                                                  09-NOV-2001
                                                                                                                                                    AAI74531;
                                                                                                                                                                                    AAI74531 standard; DNA; 51
                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 51
                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                         29
                                                                                                                                                                                                                                                                                       1 tctagtgacggtctcg 16
                                                                                                                                                                                                                                                                   tctagtgaaggtctcg
                                                                                                                                                                                                                                                                                                                                        1 Similarity
15; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                             of
                                                                                                                                                                                                                                                                                                                                                                                                                           BP;
                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                   SNP
                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                           21
```

?

11

Ç 12

G; 7 T; 0 other;

80.0%;

Score 14.4; Pred. No. 1

0;

Mismatches

.9e+02; DB 22;

Length Indels

51; 0

Gaps

0

DXXXXX

containing nucleic acid SEQ:1472.

gene therapy;

밁

```
cc polynucleotide sequences. The sequences can be used in gene and protein cc therapy, and in vaccine production. (I) and the polypeptides encoded by cc them may be used in the prevention, diagnosis and treatment of diseases cc associated with inappropriate expression of polymorphic polypeptides. Cc for example, (I) may be used to treat disorders by rectifying mutations cc or deletions in a patient's genome that affect the activity of cc polypeptides by expressing inactive proteins or to supplement the cc patients own production of polypeptide. Additionally, (I) and its cc patients own production of polypeptide. Additionally, (I) and its cc complementary sequences may also be used as DNA probes in diagnostic cassays to detect and quantitate the presence of similar nucleic acids in samples, and therefore which patients may be in need of restorative cc therapy. The polypeptides seconded by (I) may be used as antigens in the production of antibodies specific for polymorphic polypeptides. The cc antibodies may also be used as diagnostic agents for detecting the creasence of notworthic polymorphic polypeptides. The column of the production of antibodies are used as adaptate expression and activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; single nucleotide polymorphism; SNP; genome; gene therapy; protein therapy; vaccine; probe; diagnostic assay; detection; quantitation; restorative therapy; polymorphic; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequences (I), which contain single nucleotide polymorphisms (SNPs).
AAM53114 to AAM53329 represent peptides related to human polymorphic
polynucleotide sequences. The sequences can be used in gene and protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 1; Page 503; 2653pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-356160/37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-NOV-1999; 99US-0168138.
29-NOV-2000; 2000US-0726173.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Polymorphic nucleic acid sequences, useful in genetic testing and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (CURA-) CURAGEN CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30-NOV-2000; 2000WO-US32758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     to AAI79867
polymorphic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Leach M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     represent isolated human polymorphic polynucleotide
polypeptides in samples
```

```
RESULT 12
AAH53958/c
ID AAH539
₽
                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CC AAIT3060 to AAIT9867 represent isolated human polymorphic polynucleotide sequences (1), which contain single nucleotide polymorphisms (SNPs). CC AAM53114 to AAM53329 represent peptides related to human polymorphic polymorphic polynucleotide sequences. The sequences can be used in gene and protein cherapy, and in vaccine production. (I) and the polypeptides encoded by CC them may be used in the prevention, diagnosis and treatment of diseases cas sociated with inappropriate expression of polymorphic polypeptides. CC ror example, (I) may be used to treat disorders by rectifying mutations CC or deletions in a patient's genome that affect the activity of colypeptides by expressing inactive proteins or to supplement the CC complementary sequences may also be used as DNA probes in diagnostic cassays to detect and quantitate the presence of similar nucleic acids in samples, and therefore which patients may be in need of restorative cantibodies may also be used to down regulate expression and activity. The antibodies may also be used as diagnostic agents for detecting the cCC rhe antibodies may also be used as diagnostic agents for detecting the presence of polymorphic polypeptides. The antibodies may also be used as diagnostic agents for detecting the presence of polymorphic polypeptides in samples.
                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                             Best
                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-356160/37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30-NOV-1999; 99US-0168138
29-NOV-2000; 2000US-0726173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-JUN-2001
                                                                                                                                          S. epidermidis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Polymorphic nucleic acid sequences, useful in genetic testing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200140521-A2
                                                                   Staphylococcus
                                                                                                vaccination;
                                                                                                              Staphylococcus epidermidis
                                                                                                                                                                       03-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (CURA-) CURAGEN CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
            17-MAY-2001
                                       WO200134809-A2
                                                                                                                                                                                                    AAH53958;
                                                                                                                                                                                                                                AAH53958 standard; DNA; 945
                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 51
                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                      29
                                                                                                                                                                                                                                                                                                  1; Page 504; 2653pp; English.
                                                                                                                                                                                                                                                                                                                                                                 15;
                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RΑ,
                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽₽;
                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                endocarditis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000WO-US32758
                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Leach M;
                                                                     epidermidis
                                                                                                                                          open reading frame nucleotide sequence SEQ ID NO:3309
                                                                                                                                                                                                                                                                                                                                                                                                                                       22 A; 11
                                                                                                                                                                                                                                                                                                                                                                             80.0%;
93.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Ç
                                                                                                                SR1 strain; infection; diagnosis;
                                                                                                                                                                                                                                                                                                                                                                 Score 14.4; D. Pred. No. 1.9e 0; Mismatches
                                                                                                                                                                                                                                 ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                       11 G; 7 T;
                                                                                                                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                                                                                                                                                                                         0 other;
                                                                                                                                                                                                                                                                                                                                                                              .9e+02;
                                                                                                                                                                                                                                                                                                                                                                                           DB 22;
                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                               51;
                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                  0,
```

```
RESULT 13
AAH53831/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (II), given in AAG81454 to AAG83120, from Staphylococcus epidermidis.

(I) and (II) can have antibacterial activity and therefore can be used in vaccination. The nucleic acids (I) may be used to produce the containing them which are used to produce hosts cells which express the polypeptides (II) via the production of vectors containing them which are used to produce hosts cells which express the polypeptides and to raise antibodies against the bacteria. The polypeptides may then be used to vaccinate subjects and to raise antibodies against the bacteria. The polypeptides may also be used to sasay for other inhibitors of their activity and therefore identify compounds that may be used for the treatment of S. epidermidis infections, e.g. endocarditis. AAH53971 to AAH55090 represent specifically claimed S. epidermidis genomic DNA polynucleotide sequences from the present invention. AAH55091 to AAH55098 represent oligonucleotide sequences and primers which are used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity
Matches 15; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N.B. The present invention specifically claims all the polynucleotide sequences given in the sequence listing of the present specification, however the sequence listing only goes up to SEO ID NO:4454 so even though sequences are given in the disclosure for SEO ID NO:4465 to 4472, no sequences are present for SEO ID NO:4455 to 4464.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-316495/33
P-PSDB; AAG83108.
                                                                                                                                                                                                  Staphylococcus epiders,idis vaccination; endocarditis;
                                                                                                                                                                                                                                                  S. epidermidis open reading frame nucleotide sequence SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 8; Page 872; 2188pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nucleic acids encoding useful for vaccinating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09-NOV-2000; 2000WO-US30782
                              09-NOV-1999;
                                                              09-NOV-2000;
                                                                                                                                                                Staphylococcus epidermidis
                                                                                                                                                                                                                                                                                      03-SEP-2001
                                                                                                                                                                                                                                                                                                                                                      AAH53831 standard; DNA; 1146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAH52304 to AAH53970 represent nucleic acids (I) encoding polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (GLAX ) GLAXO GROUP LTD
                                                                                                                                  WO200134809-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                          2 ctagtgacggtctcgc 17
||| |||||||||||
268 CTACTGACGGTCTCGC 253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BP;
                                                                2000WO-US30782
                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-0164258
                                99US-0164258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              356 A; 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             80.0%;
93.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         polypeptides from Staphylococcus epidermidis, against infections, e.g. endocarditis -
                                                                                                                                                                                                    SR1 strain; infection; diagnosis, ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ç;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 14.4; DB 22
Pred. No. 2.5e+02;
                                                                                                                                                                                                                                                                                                                                                         ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              201 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               249 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             945;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                       NO: 3055.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
```

(GLAX) GLAXO GROUP LTD

```
RESULT
AAH54021
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in vaccination. The nucleic acids (1) may be used to produce the s. epidermidis polypeptides (II) via the production of vectors containing them which are used to produce hosts cells which express the polypeptides. The polypeptides (II) (and/or nucleic acids) may then be used to vaccinate subjects and to raise antibodies against the bacteria. The polypeptides may also be used to assay for other inhibitors of their activity and therefore identify compounds that may be used for the treatment of S. epidermidis infections, e.g. endocarditis. AAH53971 to AAH55090 represent specifically claimed S. epidermidis genomic DNA polypucleotide sequences from the present invention. AAH55091 to AAH55098 represent oligonucleotide sequences and primers which are used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N.B. The present invention specifically claims all the polynucleotide sequences given in the sequence listing of the present specification, however the sequence listing only goes up to SEQ ID NO:4454 so even though sequences are given in the disclosure for SEQ ID NO:4465 to 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 8; Page 804; 2188pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nucleic acids encoding polypeptides from Staphylococcus epidermidis, useful for vaccinating against infections, e.g. endocarditis -
               WPI; 2001-316495/33
                                             Kimmerly WJ
                                                                                                            09-NOV-1999;
                                                                                                                                            09-NOV-2000;
                                                                                                                                                                            17-MAY-2001
                                                                                                                                                                                                                                         Staphylococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Kimmerly WJ;
                                                                            (GLAX ) GLAXO
                                                                                                                                                                                                                                                                           vaccination;
                                                                                                                                                                                                                                                                                          Staphylococcus epidermidis SRl strain; infection; diagnosis;
                                                                                                                                                                                                                                                                                                                                                          03-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                           AAH54021 standard; DNA; 2982 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1146 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAH52304 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-316495/33
                                                                                                                                                                                                           WO200134809-A2
                                                                                                                                                                                                                                                                                                                                                                                          AAH54021;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 ctagtgacggtctcgc 17
||| ||||||||||||
469 CTACTGACGGTCTCGC 45

    given in AAG81454 to AAG83120, from Staphylococcus epidermidis.
    and (II) can have antibacterial activity and therefore can be used

                                                                                                                                                                                                                                                                                                                                                                                                                                                           14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequences are present for SEQ ID NO:4455 to 4464.
                                                                                                                                                                                                                                                                                                                        epidermidis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAH53970 represent nucleic acids (I) encoding polypeptides in AAG81454 to AAG83120, from Staphylococcus epidermidis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAH53970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                           endocarditis;
                                                                                                                                            2000WO-US30782
                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                             GROUP LTD
                                                                                                            99US-0164258
                                                                                                                                                                                                                                         epidermidis.
                                                                                                                                                                                                                                                                                                                        genomic polynucleotide sequence SEQ ID NO:3385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   437 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     80.0%;
93.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     168 C; 230 G; 311 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 14.4;
Pred. No. 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    to 4472,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0,
```

```
CC (II), given in AAG81454 to AAG83120, from Staphylococcus epidermidia.

CC (I) and (II) can have antibacterial activity and therefore can be used CC in vaccination. The nucleic acids (I) may be used to produce the CC in vaccination. The nucleic acids (I) and/or nucleic acids) may then be used to production of vectors CC containing them which are used to produce hosts cells which express the CC polypeptides. The polypeptides (II) (and/or nucleic acids) may then be CC used to vaccinate subjects and to raise antibodies against the bacteria. CC The polypeptides may also be used to assay for other inhibitors of their CC activity and therefore identify compounds that may be used for the CC treatment of S. epidermidis infections, e.g. endocarditis. AAH53971 to AAH55090 represent specifically claimed S. epidermidis genomic DNA CC polynucleotide sequences from the present invention. AAH55091 to CC AAH55098 represent oligonucleotide sequences and primers which are used CC in the exemplification of the present invention.

CC N.B. The present invention specifically claims all the polynucleotide sequences given in the sequence listing of the present specification, though sequences are given in the disclosure for SEQ ID NO:4454 so even though sequences are given in the disclosure for SEQ ID NO:4465.
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAH54884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
Matches 15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nucleic acids encoding polypeptides from Staphylococcus epidermidis, useful for vaccinating against infections, e.g. endocarditis -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAH54884 standard; DNA; 3116 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 2982 BP; 753 A; 592 C; 434 G; 1203 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAH54884;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 ctagtgacggtctcgc 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     to AAH53970 represent nucleic acids (I) encoding polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2188pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    . 03
88
88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 14.4; DB 22
Pred. No. 2.8e+02;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2982;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
```

```
AAH52304 to
                                   Claim 8;
                                                                   Nucleic acids encoding useful for vaccinating
                                                                                                                         WPI; 2001-316495/33
                                                                                                                                                                                                                                                                                                                                                                                                                   Staphylococcus epidermidis vaccination; endocarditis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S. epidermidis genomic polynucleotide sequence SEQ ID NO:4248.
                                                                                                                                                            Kimmerly
                                                                                                                                                                                                                                    09-NOV-1999;
                                                                                                                                                                                                                                                                     09-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                              Staphylococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             03-SEP-2001
                                                                                                                                                                                                (GLAX ) GLAXO
                                                                                                                                                                                                                                                                                                         17-MAY-2001
                                                                                                                                                                                                                                                                                                                                              WO200134809-A2
                                 Page 1970-1971;
AAH53970 represent nucleic acids
                                                                                                                                                                                                                                                                       2000WO-US30782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                GROUP LTD
                                                                                                                                                                                                                                                                                                                                                                                epidermidis
                                                                                                                                                                                                                                    99US-0164258
                                                                   polypeptides from Staphylococcus epidermidis, against infections, e.g. endocarditis -
                                 2188pp;
                                                                                                                                                                                                                                                                                                                                                                                                                   SR1
                                                                                                                                                                                                                                                                                                                                                                                                                                    strain; infection; diagnosis;
                                   English.

    encoding polypeptides
```

```
Search completed: August 21, 2002, 22:22:44 Job time: 5784 sec
                                                                                                                                           Вþ
                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                                                                                                                                                             888888888888888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                CC (II), given in AAG81454 to AAG83120, from Staphylococcus epidermidis. CC (I) and (II) can have antibacterial activity and therefore can be used CC in vaccination. The nucleic acids (I) may be used to produce the CC s. epidermidis polypeptides (II) via the production of vectors CC containing them which are used to produce hosts cells which express the CC polypeptides. The polypeptides (II) (and/or nucleic acids) may then be used to vaccinate subjects and to raise antibodies against the bacteria. CC The polypeptides may also be used to assay for other inhibitors of their CC activity and therefore identify compounds that may be used for the CC treatment of S. epidermidis infections, e.g. endocarditis. AAH53971 to CC AAH55090 represent specifically claimed S. epidermidis genomic DNA CC AAH55098 represent oligonucleotide sequences and primers which are used in the exemplification of the present invention. AAH55091 to CC AAH55098 represent invention specifically claims all the polynucleotide sequences given in the sequence listing of the present specification, CC N.B. The present invention specifically claims all the polynucleotide sequences given in the sequence listing of the present specification, CC however the sequence listing only goes up to SEO ID NO:4454 so even CC though sequences are given in the disclosure for SEO ID NO:4465 to 4472, CC no sequences are present for SEO ID NO:4464.
                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 15; Conserv
                                                                                                                                   1615 ctactgacggtctcgc 1630
                                                                                                                                                                                                                                                                                                                                                                                          Sequence 3116 BP; 966 A; 578 C; 454 G; 1118 T; 0 other;
                                                                                                                                                                   2 ctagtgacggtctcgc 17
                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                           80.0%;
93.8%;
                                                                                                                                                                                                                                                    Score 14.4; DB 22;
Pred. No. 2.8e+02;
0; Mismatches 1;
                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                        Length 3116;
                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                       0
```

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                              Minimum
Maximum
                                                                                                                                                              Result
No.
                                                                                                                                                                                                                                                                                                                                                                                           Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Total number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Scoring table:
                           0 0 0 0 0
                                                                                      0 0
                                                                                                                           o o
O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           on:
                                                                                                                                                                                                          and
                                                                                                                                                                                                                   score greater than
                                                                                                                                                                                                                           Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                              DB DB
                                                                                                                                                               Score
                                                                      15.4
15.4
15.4
15.4
15.4
15.4
                                                                                                                                                                                                          ìs
                                                                                                                                                                                                                                                                                                                                                                                                                                              seq
                                                                                                                                                                                                          derived by
                                                                                                                                                                                                                                            EST: *

: em.
2: em.
3: em
4: em
5: en
6: er
7: er
9: e
9: g
110:
113:
114:
115:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                              length: 0
length: 2000000000
                                                                                                                                                              Query
Match
                                                                                                                                                                                                         is the number of results predicted by chance to have a ater than or equal to the score of the result being printed, rived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hits satisfying chosen parameters:
Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-046-955-49
18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          August 21, 2002, 21:32:13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13736207 seqs, 6748477542 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                          gb_est1:*
                                                                                                                                                                                                                                                                                                                    em_estro:*
em_htc:*
                                                                                                                                                                                                                                           gb_est2:*
gb_htc:*
gb_htc:*
gb_gss:*
em_gss_inv:*
em_gss_pln:*
em_gss_vrt:*
                                                                                                                                                                                                                                                                                                                                     em_estpl:*
                                                                                                                                                                                                                                                                                                                                                                                  em_estba:*
                                                                                                                                                                                                                                                                                                                                                em_estov: *
                                                                                                                                                                                                                                                                                                                                                        em_estmu:*
                                                                                                                                                                                                                                                                                                                                                                em_estin:*
                                                                                                                                                                                                                                                                                                                                                                        em_esthum: *
                                                                                                                                                               Length
1005
1311
112
168
241
256
276
329
360
362
                                                                                                 936
481
486
626
629
703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GenCore version 4.5 (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                               DΒ
                                                                                       9 9
                  999999
                                                                      10
                AA324668
AA367189
AA339193
AW351943
                                                   D BJ130132
D BJ147480
AU004847
AV398645
D BG75034
AV940706
AV922948
                                                                                                                                    CNS03M43
BH625357
                                                                                                                                                               ij
         TA301E06P
                                                                                                                                                                                         SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Search time 5019.06 Seconds (without alignments) 48.405 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27472414
      AL250284 Tetraodon
BH62537 1007106H0
BE78335 601473488
BJ130132 BJ130132
BJ147480 BJ147480
AU004847
AV398645 AV398645
BG757034 602717012
BG757034 602710452
AV940706 AV940706
AV922948 AV922948
AA324668 EST278136
AA337189 EST78236
AA337189 EST78236
AA331943 IL5-HT000
AL490856 T. brucei
                                                                                                                                                             Description
56 T. bruce:
yv26d12.r1
```

45	44	43	42	41	40	39	38	37	36	35	34	ü	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18
15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
ũ.	ù.	ũ	ù	ù	Ü,	ù	Ü	Ü	ω̈	Ü	Ü	Ü	Ü	Ü	ω	Ψ	ω	ω	ω.	ω.	w.	ω	ω	ω.	ω.	83.3	ω ·
506	505	503	503	495	493	493	490	488	484	478	470	469	466	462	460	447	445	442	430	427	411	406	400	398	375	370	369
9	9	10	10	10	10	10	10	10	10	10	10	12	10	10	10	10	10	10	10	10	9	9	10	10	9	9	10
AA182515	AW672790	в1818791	2	70773	BF630275	BG424777	BI836611	BG700095	BE513967	BI334225	W05422	AQ685141	BE262001	BF038758	BI756944	вм369940	BM377636	BE868742	BE438640	BI461101	AV939224	AI347337	BG119356	H20232	AL134474		BF438464
AA182515 zp54e04.r	AW672790 ba01e11.y	BI818791 603037641	BI771378 603059392	BG707736 602671257	BF630275 HVSMEb000	BG424777 602453425	BI836611 603089596	BG700095 602679454	BE513967 601315813	602997	83e11.ı			-	4 603029			BE868742 601445978	BE438640 BCD102_WH		AV939224 AV939224	AI347337 tc05g03.x	6023490	~	AL134474 DKF2p547K	E	BF438464 7p82h06.x

00000000000 00000000 0000

ALIGNMENTS

JOURNAL COMMENT JOURNAL REFERENCE AUTHORS JOURNAL REFERENCE AUTHORS ACCESSION VERSION KEYWORDS SOURCE ORGANISM RESULT CNS03M43 FEATURES REFERENCE DEFINITION LOCUS TITLE TITLE TITLE AUTHORS source Direct Submission
Submitted (12-APR-2000) to the EMBL/GenBank/DDBJ databases
This sequence is a single read and was generated as part of a lar scale clone-end sequencing project of the Tetraodon nigroviridis genome. For more information, please take a look at http://www.genoscope.cns.fr/Tetraodon. AL250284.1 G1:7971296
GSS; genome survey sequence.
Tetraodon nigroviridis.
Tetraodon nigroviridis
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodontiformes; 2 (bases 1 to 936)
Roest-Crollius, M., Jaillon,O., Dasilva,C., Bouneau,L., Fisher,C.,
Bernot,A., Fizames,C., Wincker,P., Brottler,P., Quetler,F.,
Saurin,W. and Weissenbach,J. Unpublished Human gene number estimate provided by genome wide analysis using Tetraodon nigroviridis DNA sequence Unpublished Charaterization and repeat analysis of the compact genome of the freshwater pufferfish Tetraodon nigroviridis Roest-Crollius, H., Jaillon, O., Dasilva, C., Fizames, C., Fisher, Bouneau, L., Billault, A., Quetler, F., Saurin, W., Bernot, A. and Tetraodon nigroviridis genome survey sequence T7 end of clone 037103 of library G from Tetraodon nigroviridis, genomic survey CNS03M43 Weissenbach,J. Tetraodontidae; Tet 1 (bases 1 to 936) (bases 1 to 936) Location/Qualifiers /organism="Tetraodon nigroviridis" Tetraodon. 936 bp DNA linear GSS 17-MAY-2000 ce T7 end of clone Fisher, C., large

```
RESULT 2
BH625357/c
LOCUS
                                                                              BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
 Query Match
Best Local Similarity
Matches 16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCCAGTGACGGTCTCGCT 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Department of Biological Sciences
Stanford University
855 California Ave, Palo Alto, CA 94304, USA
Tel: 650 723 2227
Fax: 650 725 8221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Maize genomic sequences found using engineered RescueMu transposon
Unpublished (2001)
Contact: Walbot V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    l Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Possible ligation site of ends cut by 2 different endonucleases Reverse complemented post-ligation sequence from source sequence Plate: 1007106 column: 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACC clade; Panicoldeae; Andropogoneae; Zea.
                                                                                                                                                                                                                                                                                                                                                                                                                                       Class: transposon-tagged
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Email: walbot@stanford.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        walbot, v.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  вн625357.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1007106Н02.у1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (bases 1 to 481)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   174
                                                                                            68
                                                                                                                                                                 /tissue_type="leaf"
/dev_stage="adult"
/lab_host="DH10B"
/note="Organ: leaf; Vector: RescueMu (engineered from pBlueScript backbone); Site_1: BamHI; Site_2: BgIII; RescueMu is a 4.9 kb, modified maize Mu transposon designed to allow plasmid rescue from total genomic DNA. Mu elements insert preferentially into transcription units. For more information on RescueMu, go to the web site 'www.zmdb.iastate.edu' and follow the links for 'RescueMu.' Grid H was grown at Berkelev in 2011 Nun
   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                            Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 þ
                                                                                         RescueMu.' Grid H was grown at Berkeley in 2001. DNA was extracted from leaf punches, double digested using BanHI and BglII, and ligated to form circular plasmids. DH10B cells were transformed and then screened on LB plates with ampicillin."

a 193 c 127 g 93 t
                                                                                                                                                                                                                                                                                                                                           /cultivar="mixed background W23/A188/B73"
/db_xref="taxon:4577"
/clone_lib="1007 - RescueMu Grid H"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /db_xref="taxon:99883"
/clone="037103"
/clone_11b="G"
/note="Genoscope sequence ID : COBG037AE02LP1-end :
/ 259 c 267 g 236 t
                                                                                                                                                                                                                                                                                                                                                                                        /organism≈"Zea mays"
                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481 bp DN
1007 - RescueMu Grid H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     91.18;
Score 15.4; DB 1
Pred. No. 1.1e+0:
0; Mismatches
 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ore 16.4; DB 12;
ed. No. 4.3e+02;
Mismatches 1;
              1.1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zea mays genomic,
                             12;
 Indels
                              Length 481;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 936;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                from source sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GSS
 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30-JAN-2002
 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                T7"
 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                       KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                     RESULT
BJ130132
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 3
BE784335/c
LOCUS
                                REFERENCE
                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  γQ
                                                                                                                        VERSION
                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KEYWORDS
                AUTHORS
                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                              232 CAAGTGACGGTCTCGCT 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           410 CTAGTGACGGGCTCGCT
                                                                                                                                                                                                                                                                              2 ctagtgacggtctcgct 18
| |||||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ctagtgacggtctccct
                                                                                                                                                                                                                                                                                                                         16;
                                                                                                                       BJ130132.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mRNA sequence.
BE784335
                                                                                                                                                                                                                                                                                                                       Similarity 94.1
16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: Robert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mammalia; Eutheria;
1 (bases 1 to 486)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BE784335
                                                                                                                                                                                                                                                                                                                                                                                                                 196 a
                                                                                                                       GI:18290289
                                                                                                                                                                                                                                                                                                                                    85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18
                                                                                                                                                                                                                                                                                                                       0
```

```
Caenorhabditis elegans.
Caenorhabditis elegans.
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida;
Rhabditidae; Peloderinae; Caenorhabditis.

[ (bases 1 to 626)
                                                                                                                                                                                                                                                                                                                                                                                                                                                       BJ130132 626 bp mRNA linear EST 23-JAN BJ130132 unpublished oligo-capped cNNA library, C. elegans Ll Caenorhabditis elegans cDNA clone ykl039d08 3', mRNA sequence. BJ130132
and Sugano, S.
                                          Kohara, Y., Shin-i, T., Thierry-Mieg, J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                found through the I.M.A.G.E. Consortium/LinL at:
http://image.llnl.gov
Plate: LLAM9637 row: o column: 21
High quality sequence stop: 160.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: cgapbs-r@mail.nih.gov
Tissue Procurement: DCTD/DTP/Gazdar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, N
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601473488F1 NIH_MGC_68 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BE784335.1 GI:10205533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Homo sapiens"
/db_xref="taxon:9606"
/dlone=lib="NIMAGE:3976716"
/Clone_lib="NIH_MGC_68"
/Cl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 15.4; DB 10
Pred. No. 1.1e+03;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 486 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mRNA linear
s cDNA clone IMA
                                          Thierry-Mieg, D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cionally. Primer: Oligo dT. Library constructed by Life
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 486;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ear EST 20-OCT-2000
IMAGE:3876716 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EST 23-JAN-2002
Plegans L1 stage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                              Rhabditoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              : NotI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
```

```
RESULT
BJ147480
                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
KEYWORDS
                                       BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
JOURNAL
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCNAGTGACGGGCTCGCT 472
                                                                                                                                                                                                                            Tel:
                                                                                                                                                                                                                                                                                                                                                                                         Caenorhabditis elegans.
Caenorhabditis elegans
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BJ147480 unpublished oligo-capped cDNA library, C. elegans Ll stage Caenorhabditis elegans cDNA clone ykl251f07 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Center For Genetic Resource Information National Institute of Genetics 1111 Yata, Mishima, Shizuoka 411-8540, Japan Tel: 81-559-81-6856 Fax: 81-559-81-6855
                                                                                                                                                                                                                                          Center For Genetic Resource Information National Institute of Genetics 1111 Yata, Mishima, Shizuoka 411-8540, Tel: 81-559-81-6856
                                                                                                                                                                                                                                                                                                          A complementary view of the C.elegans genome Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                              ; Rhabditidae; Peloderinae; Caenorhabditis.
1 (bases 1 to 629)
Kohara,Y., Shin-1,T., Thierry-Mieg,J., Thierry-Mieg,D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A complementary view of the C elegans genome Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                      and Sugano, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                  EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           BJ147480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: Tadasu
                                                                                                                                                                                                                                                                                             Contact: Tadasu Shin-i
                                                                                                                                                                                                                                                                                                                                                                                                                                             BJ147480.1 GI:18315465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        151
                                                      151
                                                                                                                                                                                                                             81-559-81-6855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tshini@genes.nig.ac.jp.
Location/Qualifiers
                                                                                                                                                                                                                 tshini@genes.nig.ac.jp
                                                                                                       /clone="yk1251f07"
/clone_lib="unpublished oligo-capped
elegans L1 stage"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone="yk1039d08"
/clone_lib="unpublished oligo-capped cDNA library,
elegans L1 stage"
                                                    /sex="hermaphrodite"
/tissue_type="whole animal"
/dev_stage="L1"
146 c 133 g 192 t
                                                                                                                                                          /organism="Caenorhabditis
/strain="N2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /sex="hermaphrodite"
/tissue_type="whole animal"
/dev_stage="L1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /strain="N2"
/db_xref="taxon:6239"
                                                                                                                                               /db_xref="taxon:6239"
                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ∕organism="Caenorhabditis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      85.6%;
 85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Shin-i
 . 68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   135 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 15.4; DB 10 Pred. No. 1.2e+03;
  Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
 15.4;
                                                                                                                                                                                                                                                        411-8540, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      190 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 10;
 DB
                                                      c
                                                                                                                                                                        elegans"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          elegans"
 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ഗ
 Length 629;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 626;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      others
                                                                                                                       cDNA library,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0,
                                                                                                                                                                                                                                                                                                                                                    Suzuki,Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                          REFERENCE
AUTHORS
                                                                                                                                                            SOURCE
ORGANISM
                                                                                                                                                                                                                                                                    RESULT 7
AV398645/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AU004847/c
LOCUS
                                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                      COMMENT
                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
                                                                                                                                                                                      KEYWORDS
                                                                                                                                                                                                     VERSION
                                                                                                                                                                                                                                                          FOCUS
                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                         491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         456
                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROJECT
                                                                                                                                                                                                                                                                                                                                                                                                                                                           182
```

```
Best Local Similarity Matches 16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 tctagtgacggtctcgc 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTAGTGACGGTCTAGC 475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCNAGTGACGGGCTCGCT 473
Genome Research Group
National Institute of Radiological Sciences
Anagawa 4-9-1, Inage, Chiba 263-8555, Japan
Email: kmita@nirs.go.jp
                                                                               Bombyx mori cDNA
Unpublished (2000)
Contact: Mita K
                                                                                                                                                         Eukaryota, Metazoa, Arthropoda; Tracheata; Hexapoda; Insecta; Pterygota; Neoptera; Endopterygota; Lepidoptera; Glossata; Ditrysia; Bombycoidea; Bombycidae; Bombyx.

1 (bases 1 to 718)
                                                                                                                                                                                                                                                                                                                    AV398645 Bombyx mori ovary BmNPV infected; 6 hr after Bombyx mori cDNA clone NV060125 T3, mRNA sequence.
AV398645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           l Similarity
16; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mita,K., Morimyo,M., Shimada,T., Okano,K. and Maeda,S. Establishment of cDNA database of Bombyx mori Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta; Pterygota; Neoptera; Endopterygota; Lepidoptera; Glossata; Ditrysia; Bombycoidea; Bombycidae; Bombyx.

1 (bases 1 to 703)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mRNA sequence.
AU004847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AU004847 703 bp
AU004847 Bombyx mori p50(Daizo)
                                                                                                                                                                                                                                        Bombyx mori
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           National Institute of Anagawa 4-9-1, Inage,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Genome Research Group
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                domestic silkworm.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AU004847
                                                                                                                                      Mita,K., Morimyo,M., Shimada,T.,
                                                                                                                                                                                                                                                           domestic silkworm.
                                                                                                                                                                                                                                                                                                    AV398645.1 GI:6902297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Mita K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AU004847.1 GI:4162218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              kmita@nirs.go.jp
T = 'CREST project by JST'.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone_lib="Bombyx mori p50(Daizo)"
142 c 145 g 234 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /strain="p50(Daizo)"
/db_xref="taxon:7091"
/clone="ws20913"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Bombyx mori"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              88.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. 1.2e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Radiological Sciences
Chiba 263-8555, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 15.4; DB 9;
Pred. No. 1.3e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bombyx mori cDNA clone ws20913,
                                                                                                                                          Okano, K. and Maeda, S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 703;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                             EST 05-FEB-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST 19-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                             inoculation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
```

```
RESULT
BG760845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 510 TCTAGTGACGGTCTAGC 494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 tctagtgacggtctcgc 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: cgapbs-r@mail.nlh.gov
Tissue Procurement: ATCC/DCTPDTP
TCDNA Library Preparation: Ling Hong/Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Project-'Silkworm Genome Program in MAFF, and Research for the Future Program in JSPS'. see 'SilkBase', chttp://www.ab.a.u-tokyo.ac.jp/silkbase/>, for whole ESTdb.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 1005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           method:uni-directional, sequence direction:sequenced from T3 primer (5' \rightarrow 3')
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               602717012F1 NIH_MGC_49 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Plate: LLCM1672 row: g column: High quality sequence stop: 90.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BG760845.1 GI:14071485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity 94.1
16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
   231
                                        /db_xref="taxun:>>>>
/clone="IMAGE:4840730"
/clone="IMAGE:4840730"
/clone=lib="NIH_MCC_49"
/clone=lib="NIH_MCC_49"
/tissue_type="melanotic melanoma, high MDR (cell line)"
/lab_hogt="DHIOB (phage resistant)"
/lab_hogt="Organ: skin; Vector: pOTB7; Site_1: XhoI; Site_2:
/note="Organ: skin; Vector: pOTB7; Site_1: XhoI; Sit
           using ZAP-CDNA Symmum. IT RT (Life Technologies). Note: Library. |"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /cell_type="BmN cultured cell"
/dev_stage="BmNPV infected; 6 hr after inoculation"
148 c 156 g 225 t 9 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            inoculation"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone="NV060125"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /db_xref="taxon:7091"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Bombyx mori"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /tissue_type="ovary"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone_lib="Bombyx mori ovary BmNPV infected;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . 1005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 15.4; DB 9;
Pred. No. 1.3e+03;
385 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1005 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mRNA linear EST 15-MAY-2001 CDNA clone IMAGE:4840730 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 718;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6 hr after
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                               р
```

밁 ş

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 9
BG757034/c
                                                  AV940706/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Locus
                             DEFINITION
                                                                                             RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             504 CTAGTGAAGGTCTCGCT 520
                                                                                                                                                           222 CGAGTGACGGTCTCGCT 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 ctagtgacggtctcgct 18
                                                                                                                                                                                 2 ctagtgacggtctcgct 18
{ ||}||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16;
AV940706 K. Sato unpublished cDNA library, strain H602 adult, heading stage top three leaves Hordeum vulgare subsp. spontaneum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-rémail.nih.gov
Tissue Procurement: Louis M. Staudt, M.D., Ph.D.
cDNA Library Preparation: Ling Hong/Rubin Laboratory
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
CNA Sequencing by: Insyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BG757034 1311 bp mRNA linear EST 15-MAY-2001 602710452Fl NIH_MGC_48 Homo sapiens cDNA clone IMAGE:4850749 5',
                                                                                                                                                                                                                                                 l Similarity
16; Consert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BG757034.1 GI:14067687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Plate: LLCM1692 row: h column: 14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    numan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 1311)
                                                                                                                                                                                                                                                                                                                                                                               309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                      /tissue_type="primary B-cells from tonsils (cell line)"
/lab.host="DH10B (phage-resistant)"
/note="Organ: B-cells: Vector: pOTB7: Site_1: XhoI;
Site_2: ECORI; cDNA made by oligo-dT priming.
Directionally cloned into ECORI/XhoI sites using the
following 5' adaptor: GGCACGAG(G). Size-selected >500bp
for average insert size 1.8kb. Library constructed by Ling
Hong in the laboratory of Gerald M. Rubin (University of
California, Berkeley) using ZAP-cDNA synthesis kit
(Stratagene) and Superscript II RT (Life Technologies).
Note: this is a NIH_MGC Library."

09 a 353 c 371 g 274 t 4 others
                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /db_xref="taxon:9606"
/clone="IMAGE:4850749"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone_lib="NIH_MGC_48"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    85.6%;
94.1%;
                                                                                                                                                                                                                                                                      85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 15.4;
Pred. No. 1.
                                                                                                                                                                                                                                                                    Score 15.4; DB 10 Pred. No. 1.5e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .4e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 10;
                                                                                                                                                                                                                                                                                        DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1005;
                                                                                                                                                                                                                                                                                        Length 1311;
                                                  EST 18-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                 0
```

```
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 11
AV922948/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
                                                                                                                                                                                                                                             REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                     SOURCE
                                                                                                                                                                                                                                                                                                                                                                     KEYWORDS
                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                         VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S
Matches 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 tagtgacggtctcgc 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TAGTGACGGTCTCGC 53
                                                                                                    Center For Genetic Resource Information National Institute of Genetics 1111 Yata, Mishima, Shizuoka 411-8540, Japan Tel: 81-559-81-6856 Fax: 81-559-81-6855
                                                                                                                                                                                                        1 (bases 1 to 168)
Sato,K., Saisho,D. and Takeda,K.
Barley EST sequencing project in
Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                         AV922948 168 bp mRNA linear EST 18-JAN-200 AV922948 K. Sato unpublished cDNA library, cv. Haruna Nijo second leaf stage seedling leaves Hordeum vulgare subsp. vulgare cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     l Similarity
15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Center For Genetic Resource Information
National Institute of Genetics
1111 Yata, Mishima, Shizuoka 411-8540, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sato,K., Saisho,D. and Takeda,K.
Barley EST sequencing project in NIG and Okayama Univ Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST.
Hordeum vulgare subsp. spontaneum.
Hordeum vulgare subsp. spontaneum
Eukaryota; Viridiplantae; Streptophyta; Em
Spermatophyta; Magnoliophyta; Liliopsida;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cDNA clone bah28115 5', mRNA sequence AV940706 AV940706.1 GI:18236503
                                                                                                                                                                                                                                                                                                Hordeum vulgare subsp. vulgare.
Hordeum vulgare subsp. vulgare
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae
                                                                                                                                                                                                                                                                                                                                                                       EST
                                                                                                                                                                                                                                                                                                                                                                                                                        leaf stage seedling leaves Hordeu clone basd3b11 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tel: 81-559-81-6856
Fax: 81-559-81-6855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Tadasu Shin-i
                                                                   Email: tshini@genes.nig.ac.jp.
Location/Qualifiers
                                                                                                                                                                                           Contact: Tadasu Shin-i
                                                                                                                                                                                                                                                                                                                                                                                         AV922948.1 GI:18218727
                                                                                                                                                                                                                                                                                                                                                                                                        AV922948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Triticeae; Hordeum.
                                                                                                                                                                                                                                                                                 Triticeae; Hordeum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 112)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tshini@genes.nig.ac.jp.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /strain="H602"
/db_xref="taxon:77009"
/clone="bah28115"
/organism-"Hordeum vulgare subsp. vulgare"
/cultivar-"Haruna Nijo"
/db_xref-"taxon:112509"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Hordeum vulgare subsp. spontaneum"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 15;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 9; Lo
                                                                                                                                                                                                                                NIG
                                                                                                                                                                                                                                and Okayama Univ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Embryophyta; Tracheophyta;
a; Poales; Poaceae; Pooldea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 112;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
```

```
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AA324668/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      111 TAGTGACGGTCTCGC 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Adams, M.D., Kerlavage, A.R., Fleischmann, R.D., Fuldner, R.A., Bult
C.J., Lee, N. H., Kirkness, E. F., Weinstock, K.G., Gocayne, J.D., White
O., Sutton, G., Blake, J.A., Brandon, R.C., Man-Wai, C., Clayton, R.A.,
Cline, T.R., Cotton, M.D., Earle-Hughes, J., Fine, L.D., Fitzgerald
L.M., Fitzhugh, W.M., Fritchman, J.L., Geoghagen, N.S., Glodek, A.,
Gnehm, C.L., Hanna, M.C., Hedblom, E., Hinkle, P.S., Jr., Kelley, J.M.,
Kelley, J.C., Liu, L.-I., Marmaros, S.M., Merrick, J.M.,
Kelley, J.C., Liu, L.-I., Marmaros, S.M., Merrick, J.M.,
Moreno-Palanques, R.F., McDonald, L.A., Nguyen, D.T., Pelligrino, S.M.,
Moreno-Palanques, R.F., McDonald, L.A., Nguyen, D.T., Pelligrino, S.M.,
Phillips, C.A., Ryder, S.E., Scott, J.L., Saudek, D.M., Shirley, R.,
Small, K.V., Spriggs, T.A., Utterback, T.R., Weidman, J.F., Li, Y.,
Bednarik, D.P., Cao, L., Cepeda, M.A., Coleman, T.A., Collins, E. J.,
Li, Hu, J.S., Greene, J.M., Gruber, J., Hudson, P., Kim, A.K., Kozak, D.L.,
Kunsch, C., Hungjun, J., Li, H., Meissner, P.S., Olsen, H., Raymond, L.,
Wei, Y.F., Wing, J., Xu, C., Yu, G.L., Ruben, S.M., Dillion, P. J., Fannon
M.R., Rosen, C.A., Haseltine, M.A., Fields, C., Fraser, C.M. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3 tagtgacggtctcgc 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          l Similarity
15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Initial assessment of human gene diversity and expression patterns based upon 83 million nucleotides of cDNA sequence Nature 377 (6547 Suppl), 3-174 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 241)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AA324668 241 bp m
EST27818 Cerebellum II Homo sapiens
AA324668
AA324668.1 GI:1977158
                                                                                                                                                                                                                                                                                         Email: arkerlav@tigr.org
For clone availability, additional sequence and expression
information related to this EST, please check the TIGR Human Gene
Index (http://www.tigr.org/tdb/hgi/hgi.html)
                                                                                                                                                                                                                                                                                                                                                                                                                              9712 Medical Center Drive, Tel: 3018699056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Other_ESTs: THC190996
Contact: Kerlavage, AR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The Institute for Genomic Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bioinformatics
                                                                                                                                                                                                                                                                  Seq primer: M13 Reverse
                                                                                                                                                                                                                                                                                                                                                                                                        Fax: 3018699423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           36 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                               /organism="Homo sapiens"
/db_xref="ATCC (inhost):125407"
/db_xref="taxon:9606"
/clone_lib="Cerebellum II"
/tissue_type="cerebellum"
/dev_stage="adult"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone_lib="K. Sato unpublished cDNA library, cv. Haruna
Nijo second leaf stage seedling leaves"
/tissue_type="seedling leaves"
/dev_stage="second leaf stage"
1 56 c 49 g 27 t
/note="Organ: brain; Vector: pBluescript SK-; Site_1:
EcoRI; Site_2: XhoI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /clone="basd3b11"
                                                                                                                                                                                                                                       ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      83.3%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 15;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rockville, MD 20850 USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 9; Le
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mRNA 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear EST 20-APR-
'end, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EST 20-APR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

```
RESULT 13
AA367189/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                   ORIGIN
                                                                                           BASE COUNT
                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
Query Match
                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           223 AGTGACGGTCTCGCT 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Adams, M.D., Kerlavage, A.R., Fleischmann, R.D., Fuldner, R.A., Bult, C.J., Lee, N.H., Kirkness, E.F., Weinstock, K.G., Gocayne, J.D., White, O., Sutton, G., Blake, J.A., Brandon, R.C., Man-Wai, C., Clayton, R.A., Cilner, R., Cotton, M.D., Earle-Hughes, J., Fine, L.D., Fitzgerald, L.M., Fitzhugh, W.M., Fritchman, J.L., Geoghagen, N.S., Glodek, A., Gnehm, C.L., Hanna, M.C., Hedblom, E., Hinkle, P.S. Jr., Kelley, J.M., Kelley, J.C., Liu, L.-I., Marmaros, S.M., Merrick, J.M., Kelley, J.C., Liu, L.-I., Marmaros, S.M., Merrick, J.M., Kelley, J.C., Liu, L.-I., Marmaros, S.M., Merrick, J.M., Shirley, R., Moreno-Palanques, R.F., McDonald, L.A., Nguyen, D.T., Pelligrino, S.M., Phillips, C.A., Ryder, S.E., Scott, J.L., Saudek, D.M., Shirley, R., Small, K.V., Spriggs, T.A., Utterback, T.R., Weidman, J.F., Li, Y., Bednarik, D.P., Cao, L., Cepeda, M.A., Coleman, T.A., Collins, E.J., Huke, D., Feng, D.-F., Ferrie, A., Fischer, C., Hastings, G.A., He, W.M., Hu, J.S., Greene, J.M., Gruber, J., Hudson, P., Kim, A.K., Kozak, D.L., Kunsch, C., Hungjun, J., Li, H., Meissner, P.S., Olsen, H., Raymond, L., Wei, Y.F., Wing, J., Xu, C., Yu, G.L., Ruben, S.M., Dillion, P.J., Fannon, M.R., Rosen, C.A., Haseltine, W.A., Fields, C., Fraser, C.M. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4 agtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequence.
AA367189
AA367189.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA367189
EST78236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 256)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EST
                                                                                                                                                                                                                                                                                                                                   For clone availability, additional sequence and expression information related to this EST, please check the TIGR Human Gene Index (http://www.tigr.org/tdb/hgi/hgi.html)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Other_ESTs: THC190996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Venter, J.C. Venter, J.C. Venter, J.C. Venter, J.C. based upon 83 million nucleotides of cDNA sequence Nature 377 (6547 Suppl), 3-174 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bioinformatics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: Kerlavage, AR
                                                                                                                                                                                                                                                                                                                  primer:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Institute for Genomic Research 2 Medical Center Drive, Rockvill 3018699056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                   3018699423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        50
                                                                                           71
                                                                                                                                                                                                                                                                                                                                                                                                           arkerlav@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="Organ: pancreas; Vector: pBluescript SK-; EcoRI; Site_2: XhoI" 72 c 68 g 43 t 2 others
                                                                                                                                                                                                       /organism="Homo sapiens"
/db_xref="ATCC (inhost):171874"
/db_xref="taxon:9606"
                                                                                                                                                         /dev_stage="adult"
                                                                                                                                                                                 /clone_lib="Pancreas tumor III"
                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                          M13 Reverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            83.3%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          65
    83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 15; DB 9; L
Pred. No. 1.4e+03;
    Score 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rockville, MD 20850 USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            46
       DВ
       9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 241;
    Length 256,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            end, mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST 21-APR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
```

```
RESULT 14
AA339193/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FOCUS
                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
Matches 15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                      Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
     Matches
                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Adams, M.D., Kerlavage, A.R., Fleischmann, R.D., Fuldner, R.A., Bult, C.J., Lee, N.H., Kirkness, E.F., Weinstock, K.G., Gocayne, J.D., White, O., Sutton, G., Blake, J.A., Brandon, R.C., Gocayne, J.D., White, O., Sutton, G., Blake, J.A., Brandon, R.C., Man-Wai, C., Clayton, R.A., Cline, T.R., Cotton, M.D., Earle-Hughes, J., Fine, L.D., Fitzgerald, L.M., Fitzhugh, W.M., Fritchman, J.L., Geoghagen, N.S., Glodek, A., Gnehm, C.L., Hanna, M.C., Hedblom, E., Hinkle, P.S., Jr., Kelley, J.M., Kelley, J.C., Liu, L.-I., Marmaros, S.M., Merrick, J.M., Moreno-Palanques, R.F., McDonald, L.A., Nguyen, D.T., Pelligrino, S.M., Moreno-Palanques, R.F., McDonald, L.A., Nguyen, D.T., Pelligrino, S.M., Phillips, C.A., Ryder, S.E., Scott, J.L., Saudek, D.M., Shirley, R., Small, K.V., Spriggs, T.A., Utterback, T.R., Weidman, J.F., Li, Y., Bednarik, D.P., Cao, L., Cepeda, M.A., Coleman, T.A., Collins, E.J., Bednarik, D.P., Cao, L., Cepeda, M.A., Fischer, C., Hastlngs, G.A., He, W.M., Hu, J.S., Greene, J.M., Gruber, J., Hudson, P., Kim, A.K., Kozak, D.L., Kunsch, C., Hungjun, J., Li, H., Meissner, P.S., Olsen, H., Raymond, L., Wei, Y.F., Wing, J., Xu, C., Yu, G.L., Ruben, S.M., Dillion, P.J., Fannon, M.R., Rosen, C.A., Haseltine, W.A., Fields, C., Fraser, C.M. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2/6 bp mRNA linear EST 21-APR-EST44299 Fetal brain I Homo sapiens cDNA 5' end, mRNA sequence. AA339193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Initial assessment of human gene diversity and expression patterns based upon 83 million nucleotides of cDNA sequence Nature 377 (6547 Suppl), 3-174 (1995)
  l Similarity
15; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA339193.1 GI:1991472
                                                                                                                                                                                                                                                                                                                                                                                                    information related to this EST, please check the TIGR Human Gene Index (http://www.tigr.org/tdb/hgi/hgi.html)
Seq primer: M13 Reverse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Other_ESTs: THC190996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: arkerlav@tigr.org For clone availability,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fax: 3018699423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tel: 3018699056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The Institute for Genomic 9712 Medical Center Drive,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bioinformatics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Kerlavage,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Venter,J.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nmalia; Eutheria; (bases 1 to 276)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
     Conservative
                                                                                                                                            73
                                                                                                                                    /dev_stage="fetus, 24 wks"
/note="Organ: brain; Vector: pBluescript SK-;
ECORI; Site_2: XhoI"
1 75 c 80 g 45 t 3 others
                                                                                                                                                                                                                                         /sex="female"
                                                                                                                                                                                                                                                          /clone_lib="Fetal brain I"
                                                                                                                                                                                                                                                                                 /organism="Homo sapiens"
/db_xref="ATCC (inhost):140847"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%;
                         83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ΑR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.
Score 15; DB
); Pred. No. 1.5
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             additional sequence and expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Research
, Rockville, MD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.4e+03;
hes 0;
                         DB 9; I
. 1.5e+03;
                                             Length 276;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
     <u>.</u>
                                                                                                                                                                                            Site_1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
     0
```

밁

188 AGTGACGGTCTCGCT 174

```
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 15
AW351943
Search completed: August 21, 2002, 21:32:20 Job time: 12519 sec
                                                                                                                В
                                                                                                                                                     Ŷ
                                                                                                                                                                                                                                                                                                             BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                 Query Match 83.3%; Sometimes 15; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                            Tel: +55-11-2704922
Fax: +55-11-2707001
Email: asimpson@ludwig.org.br
This sequence was derived from the FAPESP/LICR Human Cancer Genome Project. This entry can be seen in the following URL (http://www.lldwig.org.br/scripts/gethtml2.pl?tl=IL5&t2=IL5-HT0009-180999-001-D12&t3-1999-09-18&t4-1)
Seq primer: puc 18 forward
High quality sequence stop: 329.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammaila; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 329)

HCGP http://www.ludwig.org.br/ORESTES.

The FAPESP/LICR Human Cancer Genome Project
Unpublished (1999)

Contact of Tangen 1 C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AW351943 329 bp mRNA linear EST 01-FEB-2000 IL5-HT0009-180999-001-D12 HT0009 Homo sapiens cDNA, mRNA sequence. AW351943 GI:6849656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: Simpson A.J.G.
Laboratory of Cancer Genetics
Ludwig Institute for Cancer Research
Rua Prof. Antonio Prudente 109, 4 andar, 01509-010, Sao Paulo-SP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST
                                                                                                                                                                                                                                                                                                                                      53
a
                                                                                                                                                                                                                                                                                                                           /note-*Organ: head_neck; Vector: pucl8; Site_1: SmaI; Site_2: SmaI, A mini-library was made by cloning products derived from ORESTES PCR (U.S. Letters Patent application No. 196,716 - Ludwig Institute for Cancer Research) profiles into the pUC 18 vector. Reverse transcription of tissue mRNA and cDNA amplification were performed under low stringency conditions."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone_lib="HT0009"
/dev_stage="Adult"
                                                                                                                                                                                                 Score 15; DB 9; Le; pred. No. 1.6e+03; 0; Mismatches 0;
                                                                                                                                                                                                                                          Length 329;
                                                                                                                                                                                                     Indels
                                                                                                                                                                                                   0;
                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                   0;
```

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                               Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Database
9
 Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B B
                                                                                                                                                                                                                                                                                                                                               Score
                                                                                                                                                                                                                                                           16.4
16.4
14.8
14.8
14.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Issued_Patents_NA:*

1: /cgn2_6/ptodata/1,

2: /cgn2_6/ptodata/1,

3: /cgn2_6/ptodata/1,

4: /cgn2_6/ptodata/1,

5: /cgn2_6/ptodata/1,

6: /cgn2_6/ptodata/1,
                                                                                                                                                                                                                                                                                                                                               %
Query
Match
 US-10-046-955-49
18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  August 21, 2002, 22:12:26; Search time 138.45 Seconds (without alignments) 31.935 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      383533 segs, 122816752 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GenCore version Copyright (c) 1993 - 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                        /cgn2_6/ptodata/1/ina/5A_COMB.seq:*
/cgn2_6/ptodata/1/ina/5B_COMB.seq:*
/cgn2_6/ptodata/1/ina/5B_COMB.seq:*
/cgn2_6/ptodata/1/ina/6B_COMB.seq:*
/cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
/cgn2_6/ptodata/1/ina/Packfiles1.seq:*
                                                                                                                                                                                                                                                                                                                                                Length
 DВ
           US-08-652-127C-8
US-08-652-127C-7
US-08-652-127C-7
US-08-652-127C-7
US-08-652-127C-7
US-08-652-127C-7
US-08-652-127C-7
US-08-737-129A-1
US-08-737-129A-1
US-08-737-129A-5
PCT-US94-14106-50
US-08-332-730A-99
US-08-332-730A-99
US-08-333-619-91
US-08-333-619-91
US-08-333-619-915
US-08-333-619-115
 US-08-403-853-19
                                                                                                                                                                                                                                                                                                                                                                                      SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Compugen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .
5
 Patent No.
Sequence
                                                                                                                                                                                                                                                                                                                                                Description
                                                                                              sequence
                                  Sequence
Sequence
Sequence
                                                                       Sequence
Sequence
                         Sequence
                                                                                                                                                                                                                                                                                                                        Sequence
            8, Appli
1, Appli
7, Appli
6, Appli
1, Appli
5, Appli
50, Appli
50, Appli
50, Appli
99, Appli
99, Appli
99, Appli
115, Appli
```

밁

429 TCTAGTGGCGGTCTCGCT 446

0

0; Mismatches 1;	127C-8 18, Application US/08652127C 10. 5792611 1 INFORMATION: 2 OF INVENTION: DETECTION OF PLANT 3 OF INVENTION: DETECTION OF PLANT 5 OF INVENTION: DETECTION OF PLANT 5 OF INVENTION: DETECTION OF PLANT 5 OF INVENTION: DATHOGEN FUNGI 18 OF SEQUENCES: 10 SEADY 18 SEADY 1	C 28 14 77.8 1446 4 US-09-171-945-130 C 29 14 77.8 1532 2 US-08-792-824-8 1572 1 US-08-792-824-5 2 14 77.8 1632 2 US-08-792-824-5 2 14 77.8 1641 2 US-08-792-824-5 2 14 77.8 1672 2 US-08-792-824-2 2 14 77.8 1772 2 US-08-792-824-2 2 17.8 1797 3 US-08-765-469-17 1 17.8 1797 3 US-08-765-469-17 1 17.8 1797 3 US-08-765-469-17 1 17.8 1797 3 US-08-79-940-6 1 17.8 1797 3 US-08-79-940-6 1 17.8 1797 3 US-08-79-824-1 1 17.8 17.8 17.8 17.8 17.8 17.8 17.8 1
Indels 0;	Length 583;	Sequence Patent No. Sequence
Gaps		130, App 23 Appli 8, Appli 5, Appli 17, Appli 17, Appli 17, Appli 17, Appli 16, Appli 59, Appli 5453363 10, Appli 10, Appli 10, Appli 10, Appli 10, Appli 10, Appli 10, Appli

US-08-652-127C-5

0;

```
; SOFTWARE: PatentIn version 3.
; SEQ ID NO 1
; LENGTH: 2293
; TYPE: DNA
; ORGANISH: Gibberella fujikuroi
US-09-645-073-1
                                                                                                                                                                                                                                                                                                                                       US-09-645-073-1 ; Sequence 1, Application US/09645073 ; Patent No. 6287800
                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 5, Application US/08652127C Patent No. 5792611 GENERAL INFORMATION:
                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: Lee, May
APPLICANT: Galazzo, Jorge
TITLE OF INVENTION: Prodd
FILE REFERENCE: L02-01NP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 17; Conserv
Query Match
                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/09/645,073
CURRENT FILING DATE: 2000-08-25
PRIOR APPLICATION NUMBER: US 60/151,770
PRIOR FILING DATE: 1999-08-31
                                                                                                                                                           NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: 18
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 232-5815
TELEFAX: (613) 232-5831
INFORMATION FOR SEQ ID NO: 5:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2IP: Klk bn,
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette
COMPUTER: IBM PC Compatible
COMPUTER: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/652,127C FILING DATE: May 23, 1996 CLASSIFICATION: 435 ATTORNEY/AGENT INFORMATION: NAME: George A. Seaby REGISTRATION NUMBER: 24,034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OPERATING SYSTEM: PC-DO SOFTWARE: ASCII CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 594
                                                                                                                                                                                                                                                                                                                                                                                                                                            439 TCTAGTGGCGGTCTCGCT 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 880 W
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: George A. Seaby ADDRESSEE: Seaby & MacLean
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: nucleic acid
STRANDEDNESS: doubl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  K1R 6K7
                                                                                                                                      PatentIn version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             880 Wellington Street, Suite 708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Richard C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   91.18;
                                                                                                                                                                                                                                                                  Production of High Titers of Gibberellins GA4 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PATHOGEN FUNGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DETECTION OF PLANT
     91.1%; Score 16.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 16.4;
Pred. No. 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 1; Length 594;
     DВ
       Length 2293;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0,
```

```
US-08-652-127C-7; Sequence 7, Applicati; Patent No. 5792611; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20
                                                                                                                                                                                                                                                                                                                                                                                                                                               ; TOPOLOGY: linear US-08-652-127C-7
                                                                                                                                                                                                                          US-08-652-127C-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                      Sequence 6, Application US/08652127C Patent No. 5792611
                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette
MEDIUM TYPE: 3.5 inch diskette
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/652,127
FILLING DATE: May 23, 1996
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (613) 232-5831
INFORMATION FOR SEQ ID NO:
                                                                                                                                                       GENERAL INFORMATION: APPLICANT: Richar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Richard C. Hamelin
TITLE OF INVENTION: DETECTION OF PLANT
TITLE OF INVENTION: PATHOGEN FUNGI
NUMBER OF SEQUENCES: 10
CORRESPONDENCE ADDRESS:
                                                                          APPLICANT: Richard C. Hamelin
TITLE OF INVENTION: DETECTION OF PLANT
TITLE OF INVENTION: PATHOGEN FUNGI
NUMBER OF SEQUENCES: 10
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: George A. Seaby
REGISTRATION UNMBER: 24,034
REFERENCE/DOCKET NUMBER: 18
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: Se
STREET: 880 W
CITY: Ottawa
                                                                                                                                                                                                                                                                                              377 TATAGTGGCGGTCTCGCT 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: K1R 6K7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: nucleic acid
STRANDEDNESS: doubl
                STREET: 880 W
CITY: Ottawa
                                             ADDRESSEE: George A. Seaby
ADDRESSEE: Seaby & MacLean
COUNTRY: Canada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE:
                                                                                                                                                                                                                                                                                                                1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Application US/08652127C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      880 Wellington Street, Suite
                                880 Wellington Street, Suite 708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Canada
                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seaby & MacLean
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         George A. Seaby
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (613)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     double
                                                                                                                                                                                                                                                                                                                                                                                 82.28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       94.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US/08/652,127C
                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. 3.9
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                   Score 14.8;
Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                     DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                  Length 531;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                     Gaps
```

0

```
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Run
                                                                                                                                                                                                                                                                                                                                 Database
                                                                                                                                                                                                                                                                                                                                                                             Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OM nucleic -
        Result
                                                                                                                                                                                                                                                                                                                                                                                                    Total number of hits satisfying chosen parameters:
ŏ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                      score greater t
                                                      Pred. No.
Score
                                                                                                                                                                                                                                                                                                                                                                            seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nucleic search, using sw model
Query
Match Length DB
                                     is the number of results predicted by chance to have a ster than or equal to the score of the result being printed, rived by analysis of the total score distribution.
                                                                     US-10-046-955-5
365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       August 21, 2002, 18:13:06; Search time 2238.68 Seconds (without alignments) 3411.915 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                   1797656 segs, 10463268293 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                  IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                 GenEmbl: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                         aaactttcaacaatggatct.....gggatacccgctgaacttaa
                                                                                                                                                                                                                                                           gb_p1:*
                                                                                                                                                                                                                                                                          gb_pat:*
                                                                   em_htg_hum:*
em_htg_inv:*
em_htg_other:*
em_htgo_inv:*
                                                                                                                                                                                                                                                                                          gb_om: *
                                                                                                                                                                                                                                    gb_ro:*
gb_sts:*
gb_sy:*
                                                                                                                         em_hum: *
em_mu: *
em_mu: *
em_on: *
em_or: *
em_ov: *
em_ph: *
em_ph: *
                                                                                                                                                                                                                     gb_un:*
                                                                                                                                                                                                                                                                                                                        gb_ba:*
                                                                                                          em_sts:*
em_un:*
                                                                                                                                                                                                       em_fun:*
                                                                                                                                                                                                              em_ba:*
                                                                                                    em_v1:*
 ij
                                                                                                                                                                                                                                                                                                                                                summaries
                                                                                                                                                                                                                                                                                                                                                                                                     3595312
Description
                                                                                                                                                  RESULT
ENU93686
LOCUS
```

5	4	س -	~	-	٠ ,	2	a	•	10	'nU	n #	٠ س	N		0	9	œ	7	0	5	-	ω	N		0	9	ж.	7 (י ת	л≢	- (u		_	0	Φ	ω	7	Ų١	01	-	ω:	∾	_	
75	ò	75	3	10	1		30	10	, 6	10	7 -	, ,		78		78.	2	79.		80.	22	81	81	82	83	84	85	85	8 6			90.		97.	30	96.	16.	18.	22.		34.	34.		
5	U	ľ	U	יטי	٦ ر	n U	ı	ıυ	7 (ηŲ	no	·σ	9	0	9	σ	σ	σ	σ	σ	7	7	. 7	.7	7	7	00	œ :	₽ :	ю 0	78.9		-	-	ω.	ω.		.~	ω.	·	Ξ.	_	٠	
1	۲		٠.		٠,	- 0			٠,	٠,	٠,	٠,		H	5		$\overline{}$	-	. ~	1 m	55		-1	1	•	ω	•	5	_;		1110	•	'n	S	_	an.	an.	ഹ	L.D.	an .	on	an.	on .	
8	α	œ	σ.	α	0	oa	0	ο α	o a	o a	0 0	α	- α	8	8	8	æ	œ	8	8	œ	œ	ω	œ	æ	œ	ω,	ω (x	x 0	ο α	œ	8	80	œ	æ	œ	œ	œ	œ	œ	œ	œ	
44(FU334	F0334	FU334	F0344	1000	1040/4	F 1 2 3 9 1	112594 1477	10004	1000	70004	F03340	F03349	F45973	388	344	HE2800	F34842	F13828	HU6530	NAJ385	F033425	F02800	F03345	F03343	NU9368	405	5000E	F03342	4 4	AEU6531U	F03342	889	88	26165	F15750	VJ00093	NI2760	<u> 2</u> 000093	J00093	F13828	<u> 2</u> 70009	89	
34463 Penicill	OSSAI/ PRINTCHIA	POSSALY Penicill	FOSSAZY PENICILI	FO34462 Penicili	POSMACO POSMACINI	FORMAT VERCICE	EDISTAL WORK CALL	F125946 Penicili	E135946 Pentetti	FO33437 Penicil	FO33416 Penicil	FO33402 Penicil	F033492 Penicili	459733 Neosarto	F078889 Aspergil	033441 Penicil	280013 Aspergil	348420 Aspergil	38288 Aspergil	5304 Aspergillu	223852 Aspergil	033425 Eupenici	280009 Aspergil	F033457 Penicill	033433 Penicill	85 Aspergillu	033405 Penicill	000936 Emericel	033423 Penicill	F033422 Penicill	asp Pasp	F033428 Penicili	078898 Emericel	078899 Emericel	61658 Aspergil	157507 Aspergil	000932 Emericel	276063 Emericel	00931 Emericel	000935 Emericel	138289 Emericel	0934 Emericel	93686 Emericella	

ALIGNMENTS

ACCESSION VERSION KEYWORDS SOURCE ORGANISM FEATURES REFERENCE DEFINITION TITLE AUTHORS JOURNAL source Emericella nidulans 5.8S ribosomal RNA gene, partial internal transcribed spacer 2, complete sequence, and RNA gene, partial sequence.

U93686

U93686.1 GI:2072177 Emericella nidulans.
Emericella nidulans
Emericella nidulans
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
Eurotiales; Trichocomaceae; Emericella.
1 (bases 1 to 365)
De Aguirre, L.A., Vaishnav, H., Westerman, J.M., and Morrison, C.J. Direct Submission
Submitted (28-FEB-1997) Mycology, Centers for Prevention, 1600 Clifton Road, N.E., Atlanta, Location/Qualifiers
1. 365 /organism="Emericella nidulans" /db_xref="taxon:162425" Disease Control and GA 30333, USA Eurotiomycetes; Reiss, E., Lott, T.J. ial sequence, and 28S ribosomal PLN 05-MAY-1997

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                           RESULT 2
EQJ000934
LOCUS
                                                       JOURNAL
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                      REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                    ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ô
                                                                                                                                                                                                               SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Sim
Matches 365;
                                                                                                                                             AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_RNA
                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                  CTTAA
                                                                                                                                                                                                                                                                                                                                                                                            CTGGCATTCCGGGGGCATGCCTGTCCGAGCGTCATTGCTGCCCTCAAGCCCGGCTTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                                                       cttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                cggtcctcgagcgtatggggcttggtcacccgctcgattagggccgggccgggcgcgcccagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tgttgggtcgtcgtccccccccggggggacgggcccgaaaggcagcggcggcaccggtc
                                                                                                                                                                             AJ000934.1 G1:3757579
5.85 rRNA gene; ITS1; ITS2.
Emericella quadrilineata.
Emericella quadrilineata
Eukaryota; Fungl; Ascomycota; P
Eurotiales; Trichocomaceae; Eme
1 (bases 1 to 560)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTTGGGTCGTCGTCCCCCCCCCGGGGGGACGGGCCCGAAAGGCAGCGGCGGCACCGGTC
                                                                                 Direct Submission
Submitted (11-FEB-1998) CANO J.F., UNITAT DE MICROBIOLOGIA.
FACULTAT DE MEDICINA, UNIVERSITAT ROVIRA I VIRGILI, C/ Sant
21, Reus, 43201 - Reus - Tarragona, SPAIN
2 (bases 1 to 560)
Schigel,A., Cano,J. and Guarro,J.
A new Species of Emericella and anomalous strains of
                                                                                                                                                                                                                                                                                EQJ000934
Emericella
                                                                  Unpublished
                                                                                                                                                                      Cano, J.F.
                                                                                                                                                                                                                                                                       ITS2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                             .quadrilineata
                                                                                                                                                                                                                                                                                                                                                  365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
/organism="Emericella q
/variety="gemmata"
/strain="FMR 5966"
/db_xref="taxon:41735"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /product="5.8s ribosomal RNA"
158. .327
/note="internal transcribed spacer
328. .>365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="CDC Mycological Reference <1 .157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /product="28S ribosomal
109 c 109 g
                                                       ocation/Qualifiers
                                                                                                                                                                                                                                                                                quadrilineata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 365; DB 8; Pred. No. 7.8e-71;
                                                                                                                                                                                                                                                                                 560 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                            Emericella.
                                                                                                                                                                                                     Pezizomycotina;
                                 quadrilineata"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 RNA"
                                                                                                                                                                                                                                                                                   FMR
                                                                                                                                                                                                                                                                                DNA 11ne
R 5966, 5.8S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Laboratory
                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2.
                                                                                                                                                                                                      Eurotiomycetes
                                                                                                                                                                                                                                                                                   TRNA
                                                                                                                                                                                                                                                                                 gene,
                                                                                                                                                                                                                                                                                            PLN 12-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B5446"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                      Sant LLorenc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                        밁
```

```
PUBMED
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BASE COUNT
ORIGIN
                                                                                                              REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                    SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                               RESULT
AF138289
                                                                                                                                                                                                                              ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                  KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 360
                                                                       JOURNAL
MEDLINE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 183
                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          243
                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               acttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tgttgggtcgtcgtccccccccgggggacggaccgaaaggcagcagcggcggcaccg-gt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAGTCTTTGAACGCACATTGCGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGCGTCTCCAACCTTATTTTTCTCAGGTTGACCTCGGATCAGGTAGGGATACCCGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                             cggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgctga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGCATTCCGGGGGGCATGCCTGTCCGAGCGTCATTGCTGCCCTCAAGCCCGGCTTGTG
                                                                                                                                                                                                                                                                                                                                                                                       ACTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTTGGGTCGTCGT - - - CCCCCCCGGGGGACGGGCCCGAAAGGCAGCGGCGGCACCGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360;
                                                                                                                                                                                                                          Emericella nidulans 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene and internal transcribed spacer 2, complete sequence; and 28S ribosomal RNA gene Ari38289

AFi38289.1 GI:4927230
                                                                            Eurotiales; Trichocomaceae; Emericella.

1 (bases 1 to 565)
Henry,T., Twen,P.C. and Hinrichs,S.H.
Identification of Aspergillus species using internal transcribed spacer regions 1 and 2
J. Clin. Microbiol. 38 (4), 1510-1515 (2000)
                                                                                                                                                              Aspergillus nidulans.
Aspergillus nidulans
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;
 Submitted (26-MAR-1999) Pathology and
                Direct Submission
                          2 (bases 1 to 565)
Henry, T.J., Iwen, P.C. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          112
                                                                                                                                                                                                                                                                                                                                                                                        545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene=
340. .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note-"
183. .3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   340. .560
/note="internal transcribed spacer 2
. 166 c 164 g 118 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product="5.8S ribosomal
183..339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /tissue_type="mycelium/hyphal"
30. .182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="5.8S rRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /citation=[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         e-"internal transcribed spacer 1 (ITS1)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    91.7%;
98.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .8S rRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 334.8;
Pred. No. 3.6e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                             Hinrichs, S.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .6e-64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
 Microbiology, University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                  PLN 11-APR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           302
                                                                                                                                                                                                                                                                                                                                                                                                                                               539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  362
                                                                                                                                                                                                                                                                                     internal
 of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2
```

```
RESULT 4
EQJ000935
LOCUS
                                                                                             KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                 Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
ORIGIN
                                                                 REFERENCE
                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                             VERSION
                                                                                                                                      ACCESSION
                                   AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                           363
                                                                                                                                                                                                                                                                                                                                                                                  303
                                                                                                                                                                                                                                                                                                                                                                                                                         243
                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                               acttaa 365
||||||
                                                                                                                                                                                                                                                                                                                                         CGGCGTCTCCAACCTTATTTTTCTCAGGTTGACCTCGGATCAGGTAGGGATACCCGCTGA
                                                                                                                                                                                                                                                                       cggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgctga
                                                                                                                                                                                                                                                                                                   ACTTAA
                                                                    AJ000935.1 GI:3757580
AJ000935.1 GI:3757580
5.8S rRNA gene; ITS1; ITS2.
Emericella quadrilineata.
Emericella quadrilineata
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
Eukaryota; Trichocomaceae; Emericella.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360;
                                                                                                                                     and ITS2.
AJ000935
               Cano,J.F.
Direct Submission
Submitted (11-FEB-1998) CANO J.F., UNITAT DE MICROBIOLOGIA.
FACULTAT DE MEDICINA, UNIVERSITAT ROVIRA I VIRGILI, C/ Sant
21, Reus, 43201 - Reus - Tarragona, SPAIN
                                                                                                                                                          Emericella quadrilineata
                                                                                                                                                                   EQJ000935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nebraska Medical Center,
68198-6495, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                               rotiales; Trichocomaceae; (bases 1 to 561)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   115
                                                                                                                                                                                                                    545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism-"Aspergillus n
/strain-"ATCC10074"
/db_xref-"ATCC:10074"
/db_xref-"taxon:5072"
<1. 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product="internal transcribed
508. .>565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product="5.8S ribosomal RNA" 340. .507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product="28S ribosomal RNA"
166 c 168 g 116 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /product="internal transcribed 184. .339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product="18S ribosomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                91.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 334.8; DB 8
Pred. No. 3.6e-64;
                                                                                                                                                          strain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    986495
                                                                                                                                                                  561 bp
                                                                                                                                                          IMI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nidulans"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nebraska Medical
                                                                                                                                                         DNA linear
[ 371927, 5.8S |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                     Eurotiomycetes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2
                                                                                                                                                       rRNA gene,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Center,
                                                                                                                                                                   PLN 14-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4.
                          Sant LLorenc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Omaha,
                                                                                                                                                                                                                                                            539
                                                                                                                                                                                                                                                                               359
                                                                                                                                                                                                                                                                                                   479
                                                                                                                                                                                                                                                                                                                                          419
                                                                                                                                                                                                                                                                                                                                                             239
                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                               242
                                                                                                                                                                                                                                                                                                                                                                                  362
                                                                                                                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                      299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2
                                  REFERENCE
AUTHORS
                                                                        VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                          LOCUS
DEFINITION
                                                                                                                                              RESULT !
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                       ρ
                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                     ş
                                                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                       밁
                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 355; Conserv
                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                       541
                                                                                                                                                                                                        360
                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                   302
                                                                                                                                                                                                                                                                                                                                                                                           242
                                                                                                                                                        თ
1 (... Cano, J.F. Cano, J.F. Direct Submission Chamitted (11-FEB-1998) C
                                                                                                                                                                                       ACTTAA 546
                                                                                                                                                                                                 acttaa 365
                                                                                     AJ000931 GI:3757576
AJ000931.1 GI:3757576
5.8S rRNA gene; ITS1; ITS2.
                                          Emericella quadrilineata
Eukaryota; Fungl; Ascomycota;
Eurotiales; Trichocomaceae; El
1 (bases 1 to 558)
                                                                                  Emericella quadrilineata.
                                                                                                                           Emericella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /gene="5.8S rRNA"
339. .561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Emericella
/variety="gemmata"
/strain="IMI 371927"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /db_xref="taxon:41735"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                          quadrilineata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . .561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89.8%;
97.0%;
              CANO
                                                                                                                        5.8S
              J.F.,
                                                                                                                                  фþ
```

õ

Ş

밁

Ş 밁 á D Ŷ

В

```
121 ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 182 AAACTTTCAACAATGGATCTCTTGGTTCCGGCATCGATGAAGAACGCAGCGAACTGCGAT 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 aaactttcaacaatggatctctttggttccggcatcgatgaagaacgcagcgaactgcgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cggcgtctccaaccttatcttctcaggttgacctcggatcaggtagggatacccgctga 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGGCATTCCGGGGGGGCATGCCTGTCCGAGCGTCATTGCTGCCCTCAAGCCCGGCCT-TG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAGTCTTTGAACGCACATTGCGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Construction of the cons
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTTGTTGGGTCGTCCCCCCCCGGGGGACGGGCCCCGAAAGGCAGCGGCGCACCGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 (bases 1 to 561)
Stchigel,A., Cano,J. and Guarro,J.
A new species of Emericella and an
quadrilineata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /tissue_type="mycelium/hyphal"
30. .181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="internal transcribed 166 c 164 g 119 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="5.8S rRNA"
/product="5.8S ribosomal
182. .338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="internal transcribed spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 327.6; DB 8;
Pred. No. 1.4e-62;
0; Mismatches 9;
                                                                                                                                                                                        Emericella.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      quadrilineata"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     anomalous
UNITAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
ITS1 and
DE MICROBIOLOGIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          strains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 (ITS1)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 (ITS2)"
                                                                                                                                                                                                                                    Eurotiomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PLN 12-OCT-1998
ITS2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
```

Ņ

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
TITLE
                           SOURCE
ORGANISM
                                                                DEFINITION
ACCESSION
VERSION
                                                                                                     RESULT 6
ENI276063
                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                         á
                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                          Ş
                                                                                                                                                                                 В
                                                                                                                                                                                                                       Ъ
                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                             В
 REFERENCE
                                                                                            LOCUS
                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_teature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rrna
                                                                                                                                              538
                                                                                                                                                               360
                                                                                                                                                                                   479
                                                                                                                                                                                                      300
                                                                                                                                                                                                                         419
                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                               362
                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                    302
                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                         242
                                                                                                                                                                                                                                                                                                                                                                               182
                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                             6
       N Emericella nidulans 5.8S rRNA gene and ITS 1 and AJ276063 AJ276063.1 GI:7208819
5.8S rlbosomal RNA; 5.8S rRNA gene; internal trainternal transcribed spacer 2; ITS1; ITS2.
Aspergillus nidulans.
Aspergillus nidulans.
M Aspergillus nidulans bukaryota; Fungi; Ascomycota; Pezizomycotina; Eucharyota; Trichocomaceae; Emericella.
                                                                                                                                                              acttaa 365
                                                                                                                                                                                tgttgggtcgtcgtcccccccccgggggacgggcccgaaaggcagcggcggcaccg-gt 239
                                                                                                                                                                                                                                                                                                             ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagccccggcttgtg 180
                                                                                                                                                                                                                                                                                                                                       CTGGCATTCCGGGGGGCATGCCTGTCCGAGCGTCATTGCTGCCCTCAAGCCCGGCTTGTG
                                                                                                                                             ACTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                    359;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FACULTAT DE MEDICINA, UNIVERSITAT ROVIRA I VIRGILI, 21, Reus, 43201 - Reus - Tarragona, SPAIN 2 (bases 1 to 558) Stchigel, A., Cano, J. and Guarro, J. A new species of Emericella and anomalous strains of quadrilineata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unpublished
                                                                                            EN1276063
                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
 (bases 1 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             112
                                                                                                                                              543
                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /gene="5.8S rRNA"
339. .558
379. .558
165 c 163 g 118 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="5.8S rRNA"
/product="5.8S rit
182. .338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism-"Emericella quadrilineata"
/isolate-"soil, Australia"
/strain-"IMI 370017"
/db_xref-"taxon:41735"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30. .181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /tissue_type="mycelium/hyphal"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                            88.4%;
98.1%;
496)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      internal transcribed spacer
                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                            Score 322.8; DB 8
Pred. No. 1.6e-61;
                                                                           496 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ribosomal
                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RNA"
                                                                                   and
                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                  linear
1 and 2,
                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 (ITS1)"
                                                       transcribed
                  Eurotiomycetes
                                                                                                                                                                                                                                                                                                                                                                                                                                       558;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ९
                                                                                            PLN
                                                                                    strain
                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sant
                                                                                            09-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                       spacer
                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LLorenc
                                                                                                                                                                                                                                                                                                                                                                                                                    w
,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
MEDLINE
REFERENCE
AUTHORS
TITLE
JOURNAL
                           ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                          В
                                                                                                                                            Ş
                                                                                                                                                               B
                                                                                                                                                                                Ş
                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
```

```
RESULT 7
EVJ000932
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_teature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_teature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                            447
                                                                                                                                                                                                           387
                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                            330
                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                          150
                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                           270
                                                                                                                                                                                                                                                                                                                                                           210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                      ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                           CGGCGTCTCCAACCTTATTTTTCTCAGGTTGACCTCGGATCAGGTAGGGA
                                                                                                                                                                        cggcgtctccaaccttatctttctcaggttgacctcggatcaggtaggga
                                                                                                                                                                                                           TGTTGGGTCGTCGT----CCCCCCCGGGGGACGGGCCCGAAAGGCAGCGGCGCACCGTGT
                                                                                                                                                                                                                                                                       tgttgggtcgtcgtccccccccccgggggacgggcccgaaaggcagcagcggcaccg-gt
                                                                                                                                                                                                                                                                                                          CTGGCATTCCGGGGGGGCATGCCTGTCCGAGCGTCATTGCTGCCCTCAAGCCCGGCTTGTG
Emericella variecolor.
Emericella variecolor
Emericella variecolor
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
Eurotiales; Trichocomaceae; Emericella.
                                              AJ000932.1 GI:3757577
5.8S rRNA gene; ITS1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (05-MAR-2000) webb J.S.,
University of Manchester, Stopford
Manchester M13 ODP, UNITED KINGDOM
Location/Qualifiers
                                                                        Emericella variecolor 5. AJ000932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Handley, P.S.
Fungal colonization chloride
                                                                                                EVJ000932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Webb, J.S., Nixon, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  h 87.3%;
Similarity 98.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Webb,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20378616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (bases 1 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Environ Microbiol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         307. .496
/note="internal transcribed
151 c 150 g 103 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /gene="5.8S rRNA"
/product="5.8S ribosomal
150. .306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /country="United Kingdom"
/tissue_type="Mycelia"
/note="Isolated from plas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 150. .306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="internal transcribed spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1. .149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Aspergillus nidulans"
/strain="MZ103"
/db_xref="taxon:5072"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            496)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .8S rRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eastwood, I.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 318.8;
Pred. No. 1.3
                                                                              563 ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        biodeterioration of plasticized
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66
                                                                                    rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (8),
                                                                                                đđ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  plasticised
                                                                                   gene,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .3e-60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3194-3200 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           School of Building,
                                                                                                DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Greenhalgh, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       spacer
                                                                                      ITS1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PVC"
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Biological Sciences, Oxford Road,
                                                                                      ITS2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ITS2"
                                                                                                                                                            496
                                                                                                                                                                                   349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              496;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Robson, G.D. and
                                                                                                PLN 12-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                        4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          polyvinyl
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                         209
                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                           446
                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                   299
                                                                                                                                                                                                                                                           386
                                                                                                                                                                                                                                                                                  239
                                                                                                                                                                                                                                                                                                          329
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ņ
```

```
REFERENCE
AUTHORS
TITLE
                                                      RESULT 8
AF157507
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                 ş
                                                                                                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                          ş
                                                                                                                             õ
                                                                                                                                                               Ş
                                                                                                                                                                                     В
                                                                                                                                                                                                    ş
                                                                                                                                                                                                                       В
                                                                                                                                             B
         VERSION
                                                                                                               밁
KEYWORDS
                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                  Matches 356;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                 304
                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                       244
                                                                                                                                                                                        421
                                                                                                                                                                                                                            364
                                                                                                               541
                                                                                                                                                   481
                                                                                                                                                                      298
                                                                                                                                                                                                          238
                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                            184
                                                                                                                                                                                                                                                                                                                                                               ۰
                                                                                                                                                                                                                                                                                                                                           GAACTTAA 548
                                                                                                                                  gaacttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 563)
Cano, J.F.
Direct Submission
Submitted (11-FEB-1998) CANO J.F., UNITAT DE MICROBIOLOGIA.
FACULTAT DE MEDICINA, UNIVERSITAT ROVIRA I VIRGILI, C/ Sant LLorenc 21, Reus, 43201 - Reus - Tarragona, SPAIN
2 (bases 1 to 563)
Stchigel, A., Cano, J. and Guarro, J.
A new species of Emericella and anomalous strains of E.
quadrilineata
                  AF157507 569 bp DNA linear PLN ll-
Aspergillus ustus 18S ribosomal RNA gene, partial sequence;
internal transcribed spacer 1, 5.8S ribosomal RNA gene and
transcribed spacer 2, complete sequence; and 28S ribosomal
gene, partial sequence.
AF157507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unpublished
          AF157507.1 GI:5163469
                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                         115
                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /gene="5.8S rRNA"
/product="5.8S ril
184. .340
                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene="5.8S rRNA"
341. .563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        184.
                                                                                                                                                                                                                                                                                                                                                                                                                                  341...563
341...note="internal transcribed
163 c 163 g 122 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /tissue_type="mycelium/hyphal"
30. .183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Emericella"
/strain="IMI 343522"
/db_xref="taxon:41726"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="internal transcribed spacer 1 (ITS1)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . 340
                                                                                                                                                                                                                                                                                                                                                                                           86.78;
96.78;
                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                           Score 316.4; DB 8 Pred. No. 4.2e-60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ribomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 variecolor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                  spacer
                                                                                                                                                                                                                                                                                                                                                                                    6,
                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                   N
                                                                                                                                                                                                                                                                                                                                                                                                                                                   (ITS2)"
                                                                  PLN 11-APR-2000
                                                                                                                                                                                                                                                                                                                                                                                   6,
                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                        internal
RNA
                                                                                                                                                                                                                                                                                      179
                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                              243
                                                                                                                                                                       357
                                                                                                                                                                                          480
                                                                                                                                                                                                           297
                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                237
                                                                                                                                                                                                                                                                    363
                                                                                                                                                                                                                                                                                                        303
                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                    Ψ
```

RESULT AF261658

9

DEFINITION

AF261658 Aspergillus

sp.

GI306 small subunit

ribosomal RNA gene,

PLN 02-MAY-2001

partial

549 bp

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                             ð
                                                                                                                                                                                     δÃ
                                                                                                                                                                                                             ₽
                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                      В
                                                           Ş
                                                                                   밁
                                                                                                     Ş
                                                                                                                            밁
                                                                                                                                                                    Вb
                                                                                                                                                                                                                                                                         ş
 밁
                    õ
                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                           Best
                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                             rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                    rRNA
                                                                                                                                                                                                                                                                                                                                                                                                        misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_RNA
                                                             299
                                                                                                                                                                                                              245
 542
                     358
                                          482
                                                                                   422
                                                                                                      239
                                                                                                                            365
                                                                                                                                                 180
                                                                                                                                                                     305
                                                                                                                                                                                        121
                                                                                                                                                                                                                                                        185
                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                     gaacttaa
||||||||
| GAACTTAA
                                                                                                                                                                                                          ccggcgtctccaaccttat-ctttctcaggttgacctcggatcaggtaggggatacccgct
                                                                                  GTGTTGGGTCGT----CCCCTCCGGGGGACGGGCCCGAAAGGCAGCGGCGGCACCGCG
                                                                                                                                                                                                                                                                                                  356;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Aspergillus ustus.
Aspergillus ustus
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;
Eurotiales; Trichocomaceae; mitosporic Trichocomaceae; Aspergi
1 (bases 1 to 569)
Henry, T., Twen, P.C. and Hinrichs, S.H.
Identification of Aspergillus species using internal transcril
spacer regions 1 and 2
J. Clin. Microbiol. 38 (4), 1510-1515 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20211684
10747135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (08-JUN-1999) Pathology and Microbiology, Univ
Nebraska Medical Center, 986495 Nebraska Medical Center,
68198-6495, Douglas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 (bases 1 to 569)
Henry, T., Iwen, P.C. and
Direct Submission
                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                               113
                                                                                                                                                                                                                                                                                                  Conservative
  549
                                                                                                                                                                                                                                                                                                                                                                                                                                                /product="18S ribosomal RNA" 31. .186
                                                                                                                                                                                                                                                                                                                                                                                    /product="internal transcribed
513. .>569
                                                                                                                                                                                                                                                                                                                                                                                                       /product="5.8S ribosomal RNA" 343. .512
                                                                                                                                                                                                                                                                                                                                                                                                                             /product="internal transcribed spacer 1"
187. .342
                                                                                                                                                                                                                                                                                                                                                              /product="28S ribosomal RNA"
167 c 164 g 125 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /country="Canada: Alberta"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Aspergillus ustus"
/db_xref="taxon:40382"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1. .569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                           83.98;
96.78;
                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                Score 306.4; DB 8; Pred. No. 6.9e-58; 0; Mismatches 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hinrichs, S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            using internal transcribed
                                                                                                                                                                                                                                                                                               6;
                                                                                                                                                                                                                                                                                                                                                                                               spacer
                                                                                                                                                                                                                                                                                                                     Length 569;
                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 University
nter, Omaha,
                                                                                                                                                                                                                                                                                                   6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Aspergillus
                                                                                                                                                                                                                                                                                                  Gaps
                                                                                   481
                                                                                                         298
                                                                                                                              421
                                                                                                                                                 238
                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Z
                                                                                                                                                                                                                                                                                                   4
```

```
REFERENCE
AUTHORS
TITLE
JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                           BASE COUNT
ORIGIN
                                                       ð
                                                                              B
                                                                                                 δ
                                                                                                                      В
                                                                                                                                      ð
                                                                                                                                                              Вþ
                                                                                                                                                                                 ô
                                                                                                                                                                                                      В
                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                               밁
밁
             Q
                                     В
                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                          Matches 354;
                                                                                                                                                                                                                                                                                                                                                                                                                  rRNA
                                                                                                                                                                                                                                                                                                                                                                          rRNA
                                                                                                                                                                                                                                                                                                                                                                                              misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_RNA
                                        466
                                                                                406
                                                                                                   239
                                                                                                                        349
                                                                                                                                           180
                                                                                                                                                                                                                                                 169
 524
                   359
                                                            299
                                                                                                                                                                289
                                                                                                                                                                                   121
                                                                                                                                                                                                        229
                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                           l aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                                                                                                                      aacttaa 365
                                       GTGTTGGGTCGTCGT----CCCCCCCGGGGGACGGGCCCGAAAAGGCAGCGGCGGCACCGTG
                                                                                                                                   gtgttgggtcgtcgtcccccccccgggggacggcccgaaaggcagcagcggcaccg-g
                                                                                                                                                                                                                                                 AAACTTTCAACAATGGATCTCTTGGTTCCGGCATCGATGAAGAACGCAGCGAACTGCGAT 228
                                                                                Ma,L.-J. and Royelly.....
Direct Submission
Submitted (28 APR-2000) Environmental and Forest Biology, State
University of New York, College of Environmental Science and
Forestry, 1 Forestry Dr., Syracuse, NY 13210, USA
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sequence; internal transcribed spacer 1, 5.8s ribosomal RNA gene and internal transcribed spacer 2, complete sequence; and large subunit ribosomal RNA gene, partial sequence.

AF261658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;
Eurotiales; Trichocomaceae; mitosporic Trichocomaceae; Asperg
1 (bases 1 to 549)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ma,L.-J. and Rogers,S.O. Ancient fungi preserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Aspergillus
Aspergillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AF261658.1 GI:13925668
                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 549)
L.-J. and Rogers,S.O.
                                                                                                                                                                                                                                                                                                                                                      113
                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                          /product="internal transcribed 489. .>549
                                                                                                                                                                                                                                                                                                                                                    /product="large subunit ribosomal RNA"
157 c 162 g 116 t 1 othe
                                                                                                                                                                                                                                                                                                                                                                                            /product="5.8S ribosomal RNA" 326. .488
                                                                                                                                                                                                                                                                                                                                                                                                                 /product="internal transcribed spacer 1"
169. .325
                                                                                                                                                                                                                                                                                                                                                                                                                                       /product="small subunit ribosomal RNA"
12. .168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /country="Greenland"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Aspergillus sp.
/isolate="GI306"
/db_xref="taxon:156735"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="isolated from glacial ice"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sp.
                                                                                                                                                                                                                                                                                                  83.3%;
96.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GI306.
                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                    Score 304;
Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ij
                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Greenland
                                                                                                                                                                                                                                                                                       DB 8;
2.3e-57;
6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  glacial
                                                                                                                                                                                                                                                                                                                                                                                     spacer
                                                                                                                                                                                                                                                                                                              Length 549;
                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ice
                                                                                                                                                                                                                                                                                                                                                                                      Ŋ
                                                                                                                                                                                                                                                                                           7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Aspergillus.
                                                                                                                                                                                                                                                                                           Gaps
                                                              358
                                                                                                     298
                                                                                                                                             238
                                           523
                                                                                 465
                                                                                                                          405
                                                                                                                                                                                                                                                                                            4
                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 1
AF078899
LOCUS
                                                                                                                                                                                                                    BASE COUNT
ORIGIN
                ρy
                                          밁
                                                           Ş
                                                                                  밁
                                                                                                   Q
                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
   В
                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                   Matches
                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PUBMED
                                                                                                                                                                                                                                                    rRNA
                                                                                                                                                                                                                                                                                 misc_RNA
                                                                                                                                                                                                                                                                                                      TRNA
                                                                                                                                                                                                                                                                                                                                                       rRNA
                                                                                                                                                                                                                                                                                                                                   misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                 source
                     181
                                           281
                                                              121
                                                                                                                          161
                                                                                   221
                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10
```

```
aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
AAACTTTCAACAATGGATCTCTTGGTTCCGGCATCGATGAAGAACGCAGCGAACTGCGAT
                                                                                                                                                                                                                                                                                                               AAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAGTCTTTGAACGCACATTGCGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               323;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   partial sequence; internal transcribed spacer 2, complete sequence; and 285 ribosomal RNA gene.

pene and internal transcribed spacer 2, complete sequence; and 285 ribosomal RNA gene.

partial sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Luo,Z., Li,R., Kony,r., Z.,...

Direct Submission
Submitted (17-JUL-1998) Dermatology, First Hospital of Submitted (17-JUL-1998) Dermatology, First Hospital (17-JUL-1998) Dermatology, First Hospital (17-JUL-1998) Dermatology, First Hospital (17-JUL-1998) Dermatology, First Hospital (17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kong, F., Li, R., Luo, Z. and Wang, D. Phylogenetic Analysis of Pathogenic Aspergillus Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zhao,J., Kong,F., Li,R., Wang,X., Wan,Z. and Wang,D. Identification of Aspergillus fumigatus and Related Species by Nested PCR Targeting Ribosomal DNA Internal Transcribed Spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Aspergillus nidulans.
Aspergillus nidulans
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;
Eurotiales; Trichocomaceae; Emericella.
1 (bases 1 to 493)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AF078899
AF078899.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Medical University, Xishiku St.,
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Regions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21270268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 493)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Clin. Microbiol. 39 (6), 2261-2266 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 493)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /product="5.8S
318. 485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Aspergillus nidulans"
/isolate="clinical isolate 97-726"
/db_xref="taxon:5072"
<1. .7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product="internal transcribed
486. .>493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product="internal transcribed
161. .317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /product="28S ribosomal RNA"
152 c 143 g 106 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="ITS1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product="18S ribosomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GI:4092048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           81.48;
97.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 297.2;
Pred. No. 7.5e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ribosomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2; DB 8;
7.5e-56;
1es 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         First Hospital of Beijing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ۲,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
            397
                                                                                239
                                                                                                                                                                                                                                                                                                                   280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N
```

```
RESULT 1
AF078898
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
MEDLINE
PUBMED
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
TITLE
JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                 ð
         밁
                                                                밁
                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
TITLE
                                                                                                                          Query Match
Best Local S
Matches 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                            rRNA
                                                                                                                                                                                                                                                                                                                                                                                         r RNA
                                                                                                                                                                                                                                                                                      misc_RNA
                                                                                                                                                                                                                                                                                                                   rRNA
                                                                                                                                                                                                                                                                                                                                                            misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
         221
                                                                    161
                                      61
                                                                                1 aaactttcaacaatggatctctttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cggcgtctccaaccttatctttctcaggtt 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAGTCTTTGAACGCACATTGCGCCCC
                        aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                   AAACTTTCAACAATGGATCTCTTGGTTCCGGCATCGATGAAGAACGCAGCGAACTGCGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AF078898

AF078898

Emericella nidulans environmental isolate C0095 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene and internal transcribed spacer 2, complete sequence; and 28S ribosomal RNA gene, partial sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Zhao, J., Kong, F., Li, R., Wang, X., Wan, Z. and Wang, D. Identification of Aspergillus fumigatus and Related Species by Nested PCR Targeting Ribosomal DNA Internal Transcribed Spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Aspergillus nidulans.
Aspergillus nidulans
Eukaryota; Fungi, Ascomycota; Pezizomycotina; Eurotiomycetes;
Eurotiales; Trichocomaceae; Emericella.
1 (bases 1 to 493)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequence; and AF078898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Luo,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 (bases 1 to 493)
Kong, F., Li, R., Luo, Z. and Wang, D.
Phylogenetic Analysis of Pathogenic Aspergillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (17-JUL-1998) Dermatology, First Hospital of Beijing Medical University, Xishiku St., Beijing 100034, China Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AF078898.1 GI:4092047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         J. Clin. Microbiol. 39 (6),
21270268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Direct Submission
                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             137606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 493)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2., Li,R.,
                                                                                                                                                                                                                  93
                                                                                                                           Conservative
                                                                                                                                                                                                                                            /product="internal transcribed spacer 486..>493
                                                                                                                                                                                                                                                                                      /product="5.8S ribosomal RNA" 318. .485
                                                                                                                                                                                                              /product="28S ribosomal RNA"
152 c 142 g 106 t
                                                                                                                                                                                                                                                                     /note="ITS2"
                                                                                                                                                                                                                                                                                                                   /product="internal transcribed spacer
161. .317
                                                                                                                                                                                                                                                                                                                                                                                                     /db_xref="taxon:5072"
                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Aspergillus nidulans"
/isolate="environmental isolate C0095"
                                                                                                                                                                                                                                                                                                                                                                          /product="18S ribosomal RNA"
                                                                                                                                                                                                                                                                                                                                                               . 160
                                                                                                                                         81.0%;
97.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kong, F., Li, D., Yoshikazu, H. and Wang, D
                                                                                                                             0
                                                                                                                           Score 295.6; DB 8
Pred. No. 1.7e-55;
0; Mismatches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2261-2266 (2001)
                                                                                                                                                        DB 8;
                                                                                                                              4.
                                                                                                                                                        Length 493;
                                                                                                                              Indels
                                                                                                                                                                                                                                                             2
                                                                                                                              4;
                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        299
                                                                      220
                                                                                                                              2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
밁
                         ρ
```

```
RESULT 1
AF033428
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                           Query Match
Best Local s
Matches 340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                    rRNA
                                                                                                                                                                                                                 misc_RNA
                                                                                                                                                                                                                                               TRNA
                                                                                                                                                                                                                                                                          misc_RNA
                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             281
cggcgtctccaaccttatctttctcaggtt 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tgttgggtcgtcgtccccccccccgggggacgggcccgaaaggcagcggcggcaccg-gt 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGGCATTCCGGGGGGCATGCCTGTCCGAGCGTCATTGCTGCCCTCAAGCCCGGCTTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ctggcattccgggggycatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTTGGGTCGTCGT----CCCCCCCGGGGGACGGGCCCGAAAGGCAGCGGCACCGTGT
                                                              340;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     complete sequence;
AF033428
AF033428.1 GI:2668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AF033428 1148 bp DNA linear PLN 13-FEB-2 Penicillum implicatum strain NRTL 2061 internal transcribed spacer 2, 5.8S ribosomal RNA gene and internal transcribed spacer 2 complete sequence; and 28S ribosomal RNA gene, partial sequence.
                                                                                                                                                                                                                                                                                                                                                               Direct Submission
Submitted (07-NOV-1997) Microbial Properties Research,
Center for Agricultural Utilization Research, 1815 N.
St., Peoria, IL 61604, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LSU-rDNA nucleotide sequences (in) Samson, R.A. and Pitt, J.I. (Eds.); INTEGRATION OF MODERN TAXONOMIC METHODS FOR PENICILLIUM ASPERGILLUS CLASSIFICATION: 163-178; Harwood Academic Publishers, The Netherlands (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;
Eurotiales; Trichocomaceae; mitosporic Trichocomaceae; Penicillium.
1 (bases 1 to 1148)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Penicillium implicatum Penicillium implicatum
                                                                                                                                                                                                                                                                                                                                                                                                                               3 (bases 1 t
Peterson, S.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Phylogenetic analysis of Penicillium species Isu-rDNA nucleotide sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Peterson, S.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Phylogenetic analysis of Penicillium species based on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Peterson, S.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unpublished
                                                           h 79.7%;
Similarity 92.4%;
40; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (bases 1 to 1148)
                                                                                                                                                      237
                                                                                                                                                      b
                                                                                                                                                                                                               /product="5.8S" 345. .514
                                                                                                                                                                                                                                               /product-"internal transcribed spacer 1" 188. .344
                                                                                                                                                      /product="28S"
| 338 c 3
                                                                                                                                                                                    515. .>1148
                                                                                                                                                                                                                                                                                                         organism="Penicillium/strain="NRRL 2061"
                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                              /product="internal transcribed
                                                                                                                                                                                                                                                                                       /db_xref="taxon:69775"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GI:2668668
                                                                                                                                                                                                                                                                                                                                                                                                                                               to 1148)
                                                            Score 290.8; DB 8;
Pred. No. 1.8e-54;
0; Mismatches 22;
                                                                                                                                                       360
                                                                                                                                                      g
                                                                                                                                                       213
                                                                                                                                                                                                                                                                                                                       implicatum"
                                                                                                                                                                                                   spacer
                                                                                           Length 1148;
                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             based
                                                                                                                                                                                                      2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PLN 13-FEB-2001
                                                               6;
                                                                                                                                                                                                                                                                                                                                                                                       University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STI
                                                                                                                                                                                                                                                                                                                                                                                                      National
                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  spacer
                                                                 ų
```

```
RESULT 1
AEU65310
LOCUS
                                                                                                                                                                                                                                                   JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ş
                                                                              BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
         ş
                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                        REFERENCE
                            Query Match
Best Local S
Matches 337
                                                                                                                                                                                                                                                                                                    AUTHORS
TITLE
                                                                                                                                                                                                                                          JOURNAL
                                                                                                            rRNA
                                                                                                                               misc_RNA
                                                                                                                                                   IRNA
                                                                                                                                                                     misc_RNA
                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAACTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tgttgggtcgtcccc--cccccgggggacgggcccgaaaggcagcggcgcgccg-
                            78.9%; tch 78.9%; al Similarity 92.1%; 337; Conservative
                                                                                                                                                                                                                                                                                                                                                                                             sequence.
U65310
                                                                                                                                                                                                                                                                                                                                                                                                              AEU65310 581 bp DNA linear PLN 01-JAN Aspergillus ellipticus internal transcribed spacer 1, partial sequence, 5.8S ribosomal RNA gene and internal transcribed spacer 2, complete sequences, and 25S ribosomal RNA gene, partial
                                                                                                                                                                                                                                                                                                                      Aspergillus ellipticus.
Aspergillus ellipticus.
Espergillus ellipticus
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;
Eurotiales; Trichocomaceae; mitosporic Trichocomaceae; Asperg
[ (bases ] to 581)
                                                                                                                                                                                                                                Direct Submission
Submitted (26-JUL-1996) Microbial Properties, NCAUR, 1815
University St., Peoria, IL 61604, USA
                                                                                                                                                                                                                                                            2 (bases 1 to 581)
Peterson, S.W.
                                                                                                                                                                                                                                                                                Unpublished
                                                                                                                                                                                                                                                                                        Aspergillus subgenus Circumdati section Nigri: relationships upon nuclear DNA complementarity and rDNA sequence analysis
                                                                                                                                                                                                                                                                                                              Peterson, S.W.
                                                                                                                                                                                                                                                                                                                                                                                   U65310.1 GI:2737898
                                                                                        112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              552
                                                                                                            /note="!
                                                                                                                               /product="5.8S ribosomal RNA" 355. .531
                                                                                                                                                                      /db_xref="taxon:41066"
<1. .197
                                                                                                                                                                                        /organism="Aspergillus
/strain="NRRL 5120"
                                                                                      /product="25S ribosomal RNA"
179 c 166 g 124 t
                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                            /note="
                                                                                                          .>581
                                                                                                                                                           internal transcribed spacer
                                                                                                                     internal transcribed spacer
                            9 Pred. No. 8e-5.
0; Mismatches
                                       288; DB 8;
No. 8e-54;
                                                                                                                                                                                                   ellipticus"
                                                Length 581;
                              Indels
                                                                                                                                                             1;
                                                                                                                      <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                             PLN 01-JAN-1998
                              4.
                                                                                                                                                                                                                                                                                                                                   Aspergillus
                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                        spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         237
                              Ψ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                      REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 14
AF033421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
  BASE COUNT
                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                     Locus
                                                                                                                                                                                                                                                                                                      AUTHORS
TITLE
                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                             JOURNAL
                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                   JOURNAL
                     rRNA
                                      misc_RNA
                                                           rRNA
                                                                                misc_RNA
                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         acttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                     AF033421
  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       560
```

```
망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgctga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTTGGGTCGCCGTCCCCCATCCCGGGGGACGGCCCGAAAGGCAGCGGCGGCACCGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAACTTTCAACAATGGATCTCTTGGTTCCGGCATCGATGAAGAACGCAGCGAAATGCGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tgttgggtcgtcgtcccccccccgggggacgggcccgaaaggcagcggcggcaccg-gt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Penicillium sartoryi strain NRIA 783 internal transcribed spacer 5.8S ribosomal RNA gene and internal transcribed spacer 2, comple sequence; and 28S ribosomal RNA gene, partial sequence.

AF033421
                                                                                                                                                                                                                                   Submitted (07-NOV-1997) Microbial Properties Research, Center for Agricultural Utilization Research, 1815 N. I St., Peoria, IL 61604, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                   LSU-rDNA nucleotide sequences
(1n) Samson, R.A. and Pitt, J.I. (Eds.);
INTEGRATION OF MODERN TAXONOMIC METHODS FOR
ASPERGILLUS CLASSIFICATION: 163-178;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes; Eurotiales; Trichocomaceae; mitosporic Trichocomaceae; Penici 1 (bases 1 to 1110)
                                                                                                                                                                                                                                                                                    Direct Submission
                                                                                                                                                                                                                                                                                                 Peterson, S.W
                                                                                                                                                                                                                                                                                                                                    Unpublished
                                                                                                                                                                                                                                                                                                                                                                     Phylogenetic analysis of Penicillium
                                                                                                                                                                                                                                                                                                                                                                                   Peterson, S.W.
                                                                                                                                                                                                                                                                                                                                                                                                                     Harwood Academic Publishers, The Netherlands
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Phylogenetic analysis of Penicillium species based
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peterson, S.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Penicillium sartoryi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Penicillium sartoryi.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AF033421.1 GI:2668661
                                                                                                                                                                                                                                                                                                                                                     lsu-rDNA nucleotide sequences
                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1
                                                                                                                                                                                                                                                                                                                      (bases 1 to 1110)
                                 /product="internal 477. .>1110
                                                                 /product="5.8s" 308. .476
                                                                                                  /product-"internal transcribed
151. .307
                                                                                                                                                                /organism="Penicillium
/strain="NRRL 783"
              /product="28S"
                                                                                                                                                /db_xref="taxon:70101"
                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                     to 1110)
 o
 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1110 bp
g
                                                 transcribed
 218
                                                                                                                                                                                sartoryi*
                                                                                                                                                                                                                                                                                                                                                                       species
                                                   spacer
                                                                                                                  spacer 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                        PENICILLIUM
                                                                                                                                                                                                                                                                                                                                                                     based
                                                                                                                                                                                                                                                                                                                                                                                                                        (2000)
                                                    Ŋ
                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PLN 13-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                       STI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ITS
                                                                                                                                                                                                                                                      University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Penicillium.
                                                                                                                                                                                                                                                                      National
                                                                                                                                                                                                                                                                                                                                                                                                                                                          AND
                                                                                                                                                                                                                                                                                                                                                                       and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 554
```

```
RESULT 15
AF033422
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                           JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
TITLE
                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          acttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGGTATTCCGGAGGGCATGCCTGTCCGAGCGTCATTGCTGCCCTCAAGCCCGGCTTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACTTAA 514
                                                                       Peterson, S.W.

Pirect Submission

Direct Submission

Submitted (07-NOV-1997) Microbial Properties P

Center for Agricultural Utilization Research,

Center for Agricu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Penicillium citrinum strain NRRL 1841 internal transcribed 1, 5.85 ribosomal RNA gene and internal transcribed spacer complete sequence; and 285 ribosomal RNA gene, partial sequence33422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Penicillium citrinum
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;
Eurotiales; Trichocomaceae; mitosporic Trichocomaceae; Penici
                                                                                                                                                                                                                                                                                          Peterson, S.W.
Phylogenetic analysis of Penicillium
lsu-rDNA nucleotide sequences
                                                                                                                                                                                                                                                                                                                                                                    INTEGRATION OF MODERN TAXONOMIC METHODS FOR PENICILLIUM ASPERGILLUS CLASSIFICATION: 163-178; Harwood Academic Publishers, The Netherlands (2000) 2 (bases 1 to 1110)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Phylogenetic analysis of Penicillium species LSU-rDNA nucleotide sequences (in) Samson, R.A. and Pitt, J.I. (Eds.);
                                                                                                                                                                                                                                                                   Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Peterson, S.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Penicillium citrinum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AF033422.1 GI:2668662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 1110)
                                                                                                                                                                                                                                              (bases 1 to 1110)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
/organism="Penicillium/strain="NRRL 1841"
/db_xref="taxon:5077"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78.6%;
91.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 286.8; DB v;
Pred. No. 1.4e-53;
                                                                                                                                                                                                                                                                                                                         species
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                    Research, National , 1815 N. University
                                                                                                                                                                                                                                                                                                                         based
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         based on
                                                                                                                                                                                                                                                                                                                         on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PLN 13-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3,
                                                                                                                                                                                                                                                                                                                         STI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Penicillium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ψ
```

```
BASE COUNT
ORIGIN
                                                                                                              ρ
                                                                                                                                                δÃ
                                                                                                                                                                                 Š
              Š
                               밁
                                            δÃ
                                                                 밁
                                                                               Q
                                                                                                밁
                                                                                                                                 뮹
                                                                                                                                                                  밁
                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                         Query Match
Best Local (
                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                  misc_RNA
                                                                                                                                                                                                                                                                                                                                                   misc_RNA
                               450
                                                                                                 331
                                                                                                                 181
                                                                                                                                  271
                                                                                                                                                 121
                                                                                                                                                                  211
                                                 300
                                                                 391
                                                                                240
                                                                                                                                                                                                  151
                                                                                                                                                                                  61
| acttaa 365
||||||
| ACTTAA 514
                                                                                                                                                                                                 ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccgggcttgtg
                                                                                                                                                                          aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                               AACTAATGTGAATTGCAGAATTCAGTGAATCATCGAGTCTTTGAACGCACATTGCGCCCT
                                                                                                                                  CTGGTATTCCGGAGGGCATGCCTGTCCGAGCGTCATTGCTGCCCTCAAGCCCGGCTTGTG
                                                                                                 TGTTGGGCCCCGTCCCCCCCGCGGGGGGGACGGGCCCGAAAGGCAGCGGCGCACCGCGT
                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                  /product="internal t
477. .>1110
/product="28S"
a 313 c 338 g
                                                                                                                                                                                                                                                                                                                 /product="5.8S"
308. .476
                                                                                                                                                                                                                                                                                                                                  /product="internal transcribed spacer 1"
151. .307
                                                                                                                                                                                                                                          78.68;
                                                                                                                                                                                                                                          Score
Pred.
                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                          286.8; DB 8
No. 1.4e-53;
                                                                                                                                                                                                                                                                                                           transcribed
                                                                                                                                                                                                                                                                                   218
                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                  Length 1110;
                                                                                                                                                                                                                                   ω
                                                                                                                                                                                                                                  Gaps
                                                                 449
                                                                                                                 239
                                                                                                                                                  180
                                                                                                                                                                  270
                                                 359
                                                                                                  390
                                                                                                                                  330
                                                                                299
```

Ψ

Search completed: August 21, 2002, 22:09:44 Job time: 14198 sec

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Minimum DB seq
Maximum DB seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N_Geneseq_032802:*
1: /SIDS1/gcgdata/ge
2: /SIDS1/gcgdata/ge
3: /SIDS1/gcgdata/ge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1736436 seqs, 858457221 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 aaactttcaacaatggatct.....gggatacccgctgaacttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-046-955-5
365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       August 21, 2002, 20:46:20;
Josephan Langenesed, Jenesed, -embl/NA199, DAT: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GenCore version 4.5
Copyright (c) 1993 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1980.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-embl/NA1981.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-embl/NA1982.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-embl/NA1983.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-embl/NA1983.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-embl/NA1985.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-embl/NA1986.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-embl/NA1986.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-embl/NA1986.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-embl/NA1986.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Search time 594.49 Seconds (without alignments) 1054.137 Million cell updates/sec
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

9	8	7	6	S	4	w	2		Result No.
206.6	206.8	220.6	221.2	230.4	256	258.8	284.2	365	Score
56.6	56.7	60.4	60.6	63.1	70.1	70.9	77.9	100.0	Query Match
309	610	498	382	355	556	364	365	365	Query Match Length DB
20	20	20	21	20	20	20	20	20	!
AAV70872	AAX90111	AAZ 22437	AAA72782	AAV70848	AAZ22438	AAV70846	AAV70847	AAV70849	ID
Internal transcrib	Phomopsis viticola	Internal Transcrib	5.8s rRNA gene seg	Sequence containin	Internal Transcrib	Sequence containin	Sequence containin	Sequence containin	Description

Aidorevich L,

Choi JS,

Morrison CJ,

Reiss Ħ (USSH) US DEPT HEALTH & HUMAN SERVICES

01-MAY-1998;

12-NOV-1998.

02-MAY-1997;

97US-0045400 98WO-US08926

21 174.4 22 171.1 23 171.1 24 170.4 25 169.4 27 169.2 29 169.2 29 169.2 30 169.2 31 169.2 31 169.2 31 168.8 34 166.6 35 167.2 36 167.2 37 166.8 38 166.6 39 166.8 39 166.8 39 166.8 39 165.8 40 165.8 41 165.8 43 165.8	10 203.8 11 195.2 12 188.4 13 189.6 14 180.6 15 180.2 16 179.4 17 179.2 17 179.2 18 177.8 19 177.8
	553.58 51.55 51.55 51.64 49.54 49.24 48.7
	568 640 608 618 597 561 553 549
1119	
AAZ11797 AAR76260 AAS16211 AAZ11794 AAT65101 AAZ11793 ABA01155 AAZ11786 AAZ11786 AAZ11790 AAZ11790 AAZ11792 AAZ11798 AAZ11799 AAZ11789	AAX90112 AAH73767 AAAX90110 AAX790110 AAX43265 AAV43265 AAV43265 AAV591726 AAT65100 AAZ91726 AAZ91724 AAZ91724
	Diplodia gossypina Guignardia citrica Phomopsis viticola Guignardia citrica Sequence of ITS re F. avenaceum inter Rosellinia necatri Rosellinia necatri Rosellinia necatri Rosellinia necatri

ALIGNMENTS

```
5.8S ribosomal RNA gene; internal transcribed spacer 2; ITS2; 28S ribosomal RNA gene; probe; Aspergillus flavus; A. fumigatus; A. niger; A. terreus; A. nidulans; Fusarium solani; F. moniliforme; Mucor rouxil; M. racemosus; M. plumbeus; M. indicus; M. circinilloides f. circinelloides; Rhizopus oryzae; R. microsporus; R. circinans; R. stolonifer; Rhizomucor pusillus; Absidia corymbifera; Cunninghamella elegans; Pseudallesheria boydii; Scedosporium aplospermum; Penicillium notatum; Sporothrix schenkii; filamentous fungus; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                AAV70849 standard; DNA; 365 BP
                                                                                                                                                                                 Aspergillus nidulans.
                                                                                                                                                                                                                                                                                                                                                                                                                      AAV70849;
                                                                                                                                                  WO9850584-A2.
                                                                                                                                                                                                                                                                                                                                                     Sequence containing the rDNA internal transcribed spacer 2 (ITS2).
                                                                                                                                                                                                                                                                                                                                                                                       26-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
```

```
δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                               밁
                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                   дd
                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SXCCCCCCCCCCCCXXXTTTTXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query
Best L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          probes for identifying a species selected from Aspergillus flavus, A. A. funigatus, A. niger, A. terreus, A. nidulans, Fusarium solani, F. moniliforme, Mucor rouxii, M. racemosus, M. plumbeus, M. indicus, M. circinilloides f. circinelloides, Rhizopus oryzae, R. microsporus, R. circinans, R. stolonifer, Rhizomucor pusillus, Absidia corymbifera, Cunninghamella elegans, Pseudallesheria boydii (teleomorph of Scedosporium aplospermum), Penicillium notatum, or Sporothrix schenkii. The probes can be used for differentiating filamentous fungal species from each other and from other medically important fungi.
                          5.8S ribosomal RNA gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence represents a partial 5.8S ribosomal RNA gene, internal transcribed spacer 2 (ITS2), and a partial 28S ribosomal RNA gene. Probes can be derived from the present sequence which are specific. The specification also describes ITS2 sequence-derived
                                                                             26-FEB-1999
                                                                                                                                AAV70847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Aspergillus, Fu:
Cunninghamella,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim
                                                                                                                                                                                                361
                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
s ribosomal RNA gene;
niger; A. terreus; A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
                                                                                                                                                          N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nucleic acid probes for filamentous fungi - for detecting e.g. srgillus, Fusarium, Mucor, Rhizopus, Rhizomucor, Absidia, ninghamella, Pseudoallescheria boydii, Penicillium and Sporothr
                                                                                                                                                                                               cttaa
                                                                                                                                                                                                                         cttaa
                                                                                                                                                                                                                                                                ggcgtctccaaccttatcttctcaggttgacctcggatcaggtagggatacccgctgaa
                                                                                                                                                                                                                                                                                                                                                     tgttgggtcgtcgtccccccccgggggacgggcccgaaaggcagcggcaccggtc
                                                                                                                                                                                                                                                                                                                                                                                                                       ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                                                                                                                                                                                                                                  ggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgctgaa
                                                                                                                                                                                                                                                                                                     cggtcctcgagcgtatggggcttggtcacccgctcgattagggccgggccgggcgcgccagcc
                                                                                                                                                                                                                                                                                                                                                                                                         ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                               aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1999-034737/03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        365;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                  containing
                                                                                                                                standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Page 11;
                                                                                                                                                                                                                         365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ВP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               45pp;
                                                    the rDNA internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      109
                                                                                                                                 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               English.
probe; Aspergillus flavus;
nidulans; Fusarium solani;
                          internal transcribed spacer 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ű
                                                                                                                                ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 365; Db 2v,
Pred. No. 1.1e-99;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      109 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Τ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      other;
                                                  spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
A. fumigatus;
F. moniliforme
                          ITS2;
                                                    N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ia,
Sporothrix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
```

```
ρ
                                                                       Ş
                                                                                                       В
                                                                                                                                                               В
                                                                                                                                                                                            Š
                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                    Q
                                              В
                                                                                                                                Q
                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 335
                                                                                                                                                                                                                                                                                                                                                                                                                                           probes for identifying a species selected from Aspergillus flavus,
A. funigatus, A. niger, A. terreus, A. nidulans, Fusarium solani,
F. moniliforme, Mucor rouxii, M. racemosus, M. plumbeus, M. indicus,
M. circinilloides f. circinelloides, Rhizopus oryzae, R. microsporus,
Cunninghamella elegans, Pseudallesheria boydii (teleomorph of
Scedosporium aplospermum), Penicillium notatum, or Sporothrix schenkii.
The probes can be used for differentiating filamentous fungal species
from each other and from other medically important fungi.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present sequence represents a partial 5.8S ribosomal RNA gene, internal transcribed spacer 2 (ITS2), and a partial 28S ribosomal RNA gene. Probes can be derived from the present sequence which are species-specific. The specification also describes ITS2 sequence-derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mucor rouxil; M. racemosus; M. plumbeus; M. indicus; M. circinilloides f. circinelloides; R. Rizopus oryzae; R. microsporus; R. circinans; R. stolonifer; Rhizopucor pusillus; Absidia corymbifera; Cunninghamella elegans; Pseudallesheria boydil; Scedosporium apiospermum; Penicillium notatum; Sporothrix schenkil; filamentous fungus; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Aspergillus, Fus Cunninghamella,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-MAY-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New nucleic acid probes
Aspergillus, Fusarium, M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1999-034737/03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Aidorevich L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO9850584-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Aspergillus niger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (USSH ) US
                  299
                                              241
                                                                           239
                                                                                                         181
                                                                                                                                     181
                                                                                                                                                                 121
                                                                                                                                                                                            121
                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                     ш
                                                                                                                                                                                                                                                                                                               -
ccggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgctg
                                                          ctggtattccggggggcatgcctgtccgagcgtcattgctgccctcaagcacggcttgtg
                                                                                                                                                                          ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                     aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                                                                                                                                                                                                                                                                                aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
                                                                                                    tgttgggtcgccgtccccctctcccgggggacgggcccgaaaggcagcggcggcaccgcg
                                                                                                                  tgttgggtcgtcgtcccc-ccccggggggacgggcccgaaaggcagcggcggcaccg-g
                                                                                                                                                                                                                       aactaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                           tccgatcctcgagcgtatggggctttgtcacctgctc--tgtaggcccggccggcgcctg
                                                                                                                                                                                                                                                                                  aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaaatgcgat
                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                    365 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Page 10-11; 45pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEPT HEALTH & HUMAN SERVICES
                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Choi JS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    97US-0045400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98WO-US08926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   d probes for filamentous fungi - for detecting e.g. sarium, Mucor, Rhizopus, Rhizomucor, Absidia, Pseudoallescheria boydii, Penicillium and Sporothrix
                                                                                                                                                                                                                                                                                                                                                                                                                     71
                                                                                                                                                                                                                                                                                                                                                                                                                    Α;
                                                                                                                                                                                                                                                                                                                                                       77.98;
91.38;
                                                                                                                                                                                                                                                                                                                                                                                                                     106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Morrison CJ,
                                                                                                                                                                                                                                                                                                                                                                                                                    Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          English
                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                         Score 284.2;
Pred. No. 1.8e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                     103
                                                                                                                                                                                                                                                                                                                                                                                                                    <u>ن</u>
                                                                                                                                                                                                                                                                                                                                                      284.2;
No. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                     85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Reiss
                                                                                                                                                                                                                                                                                                                                                                                                                    7;
                                                                                                                                                                                                                                                                                                                                           .8e-75;
les 28;
                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                       DB 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E3
                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                       Length 365;
                                                                                                                                                                                                                                                                                                                                            4.
                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                      240
                                                                                                                                238
                                                                                                                                                               180
                                                                                                                                                                                            180
                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                             60
                                           298
                                                                        298
                                                                                                                                                                                                                                                                                                                                            Ψ
```

299

ccgacgttatccaaccatttttttccaggttgacctcggatcaggtagggatacccgctg

358

```
В
                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
AAV70846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                              Query Match
Best Local Similarity
Matches 333; Conserv
                                                                                                                                                                   The present sequence represents a partial 5.8S ribosomal RNA gene, internal transcribed spacer 2 (ITS2), and a partial 28S ribosomal RNA gene. Probes can be derived from the present sequence which are species specific. The specification also describes ITS2 sequence-derived A. funiqatus, A. niger, A. terreus, A. nidulans, Fusarium solani, F. moniliforme, Mucor rouxii, M. racemosus, M. plumbeus, M. midicus, M. circinilloides f. circinelloides, Rhizopus oryzae, R. microsporus, R. circinans, R. stolonifer, Rhizomucor pusillus, Absidia corymbifera, Cunninghamella elegans, Pseudallesheria boydii (teleomorph of Scedosporlum apiospermum), Penicillium notatum, or Sporothrix schenkii. The probes can be used for differentiating filamentous fungal species from each other and from other medically important fungi.
                                                                                                                                                                                                                                                                                                                                                                                                                                          New nucleic acid probes for filamentous fungi - for detecting e.g. Aspergillus, Fusarium, Mucor, Rhizopus, Rhizomucor, Absidia, Cunninghamella, Pseudoallescheria boydii, Penicillium and Sporothr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           M. circinilloides f. circinelloides; Rhizopus oryzae; R. microsporus; R. circinans; R. stolonifer; Rhizomucor pusillus; Absidia corymbifera; Cunninghamella elegans; Pseudallesheria boydii; Scedosporium apiospermum; Penicillium notatum; Sporothrix schenkii; filamentous fungus; ss.
                                                                                                                                          Sequence 364 BP; 74 A;
                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; Page 10; 45pp;
                                                                                                                                                                                                                                                                                                                                                                                                                             species
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Aidorevich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAY-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12-NOV-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO9850584-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28S ribosomal RNA gene; probe; Aspergillus flavus; A. fumigatus; A. niger; A. terreus; A. nidulans; Fusarium solani; F. moniliforme; Mucor rouxii; M. racemosus; M. plumbeus; M. indicus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5.8S ribosomal RNA gene;
28S ribosomal RNA gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAV70846 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (USSH ) US DEPT HEALTH & HUMAN SERVICES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Aspergillus fumigatus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAV70846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               359 aacttaa
|||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  359
 _
                               -
                amactttcamcamtggatctcttggttccggcatcgmtgamgamcgcagcgmactgcgmt 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1999-034737/03.
aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaaatgcgat 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     containing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ĺ
                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Choi JS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97US-0045400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98WO-US08926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the rDNA internal transcribed spacer 2 (ITS2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entry)
                                                                           70.9%;
                                                                                                                                          107 C; 102 G;
                                                                                                                                                                                                                                                                                                                                                                                               English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     364 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Morrison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        internal transcribed spacer 2; ITS2;
                                                              0;
                                                            Score 258.8; DB
Pred. No. 7.3e-68
0; Mismatches 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ÇJ,
                                                                                                                                          81 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Reiss
                                                                                                                                          0
                                                                                                                                          other;
                                                              27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E
                                                                                             20;
                                                              Indels
                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                            Sporothrix
                                                            8
                                                           Gaps
                                                            Ś
```

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAZ22438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
     This is the nucleotide sequence for the Internal Transcribed Spacer (ITS) of P.expansum. This sequence was amplified directly from the isolate by the ITSS (AAZ2530) and ITS4 (22531) primers.

This invention is directed to the identification of different fermentation-related microorganisms, particularly those involved in the production of wine. The invention utilizes a polymerase chain reaction (PCR) based diagnostic assay of DNA sequences located in the Internal Transcribed Spacer (ITS) region of the ribosomal RNA gene.

Ribosomal genes are suitable for use as molecular probe targets because of their high copy number. Non transcribed and transcribed spacer sequences associated with ribosomal genes are usually poorly conserved and, thus, are advantageously used as target sequences for the detection of record to collutionary differences.
                                                                                                                                                                                          Disclosure; Page 32-33; 52pp; English
                                                                                                                                                                                                                                 New isolated fungal and yeast nucleic acids, used for identifying different fermentation-related microorganisms, particularly in wi
                                                                                                                                                                                                                                                                                                                                                             11-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                       11-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9946405-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Penicillium expansum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAZ22438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAZ22438 standard; DNA;
                                                                                                                                                                                                                        termentation
                                                                                                                                                                                                                                                                             WPI; 1999-551425/46
                                                                                                                                                                                                                                                                                                                                 (GALL-) GALLO WINERY E & J.
                                                                                                                                                                                                                                                                                                                                                                                                                   16-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Internal Transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Internal Transcribed Spacer; ITS;
PCR; microorganism; wine-making;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
 recent evolutionary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gaacttaa
|||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gccggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gtccggtcctcgagcgtatggggcttg---tcacctgctctgtaggcccggccggcgcca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gtgttgggtcgtcgtcccc-ccccgggggacgggccgaaaggcagcggcaccg-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gtgttgggcccccgtccccctctcccgggggacgggcccgaaaggcagcggcggcaccgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ctggtattccggggggcatgcctgtccgagcgtcattgctgcccatcaagcacggcttgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gccgac--acccaactttatttttctaaggttgacctcggatcaggtagggatacccgct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ctggcattccggggggcatgcctgtccgagcgtcattgctgccc-tcaagcccggcttgt
                                                                                                                                                                                                                                                                                                       Descenzo RA,
                                                                                                                                                                                                                        cultures
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                363
                                                                                                                                                                                                                                                                                                                                                              98US-0037990
                                                                                                                                                                                                                                                                                                                                                                                       99WO-US04251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Spacer of P.expansum
divergence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            556
                                                                                                                                                                                                                                                                                                       Morenzoni RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ITS; fungus; yeast;
ing; commercial; ds.
 Fungal
                                                                                                                                                                                                                                                                                                       Irelan NA;
 rRNA
                                                                                                                                                                                                                                   particularly in wine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fermentation; assay;
 are
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
 5
```

```
ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Mat
Best Loca
Matches
                                                                                                                                                                          5.8S ribosomal RNA gene; internal transcribed spacer 2; ITS2; 28S ribosomal RNA gene; probe; Aspergillus flavus; A. fumigatus; A. niger; A. terreus; A. nidulans; Fusarium solani; F. moniliforme; Mucor rouxii; M. racemosus; M. plumbeus; M. indicus; M. circinilloides f. circinelloides; Rhizopus oryzae; R. microsporus; R. circinans; R. stolonifer; Rhizomucor pusillus; Absidia corymbifera; Cunninghamella elegans; Pseudallesheria boydii; Scedosporium apiospermum; Penicillium notatum; Sporothrix schenkli; filamentous fungus; ss.
            Aidorevich
                                                                                  01-MAY-1998;
                                                          02-MAY-1997;
                                                                                                          12-NOV-1998
                                                                                                                               WO9850584-A2
                                                                                                                                                      Aspergillus terreus
                                                                                                                                                                                                                                                                                                                                      AAV70848;
                                                                                                                                                                                                                                                                                                                                                             AAV70848 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              units. Each unit encodes mature subunits of 18S, 5.8S and 28S rRNA. ITS region lies between the 18S and 28S rRNA genes and contains two variable non-coding spacers (ITS1 and ITS2) and the 5.8S rRNA gene.
                                                                                                                                                                                                                                                                                    Sequence containing the rDNA internal transcribed spacer 2 (ITS2).
                                                                                                                                                                                                                                                                                                                26-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 556 BP; 111 A;
                                                                                                                                                                                                                                                                                                                                                                                                                        529
                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         _
                                                                                                                                                                                                                                                                                                                                                                                     s
                                                                                                                                                                                                                                                                                                                                                                                                                        acttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
                                  ) US
                                                                                                                                                                                                                                                                                                                                                                                                                                              acttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ccggtcctcgagcgtatggggctttgtcacccgctc--tgtaggcccggccggcgcttgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tgttgggccccgtcctccgattccgggggacgggcccgaaaggcagcggcgcaccgcgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tgttgggtcgtcgtccccccccgggggecggacggccgaaaggcagcggcgcaccg-gt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ctggtattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagccccggcttgtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aaactttcaacaacggatctcttggttccggcatcgatgaagaacgcagcgaaatgcgat 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 acgtaatgtgaattgca-aattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 324;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
            ŗ
                                   DEPT
                                                                                                                                                                                                                                                                                                                                                                                                                        534
                                                                                                                                                                                                                                                                                                                                                                                                                                               365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                             (first entry)
                                                          97US-0045400
                                                                                  98WO-US08926
                                  HEALTH & HUMAN SERVICES.
                                                                                                                                                                                                                                                                                                                                                             DNA;
            Sr,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           70.1%;
88.5%;
                                                                                                                                                                                                                                                                                                                                                              355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         168 C; 155
            Morrison
                                                                                                                                                                                                                                                                                                                                                              ΒP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 256;
Pred. No. 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
            Ç,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         <u>ი</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        122 T; 0 other;
            Reiss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 20;
.8e-67;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 35;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4.
```

```
Вþ
                                     δÃ
                                                                          B
                                                                                                        Ş
                                                                                                                                            밁
                                                                                                                                                                        Ş
                                                                                                                                                                                                                В
                                                                                                                                                                                                                                          δÔ
                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present sequence represents a partial 5.8S ribosomal RNA gene, internal transcribed spacer 2 (ITS2), and a partial 28S ribosomal RNA gene. Probes can be derived from the present sequence which are species specific. The specification also describes ITS2 sequence-derived probes for identifying a species selected from Aspergillus flavus, A. fumigatus, A. nider, A. terreus, A. nidulans, Fusarium solani, F. moniliforme, Mucor rouxii, M. racemosus, M. plumbeus, M. indicus, R. circinilloides f. circinelloides, Rhizopus oryzae, R. microsporus, R. circinans, R. stolonifer, Rhizomucor pusillus, Absidia corymbifera, Cunninghamella elegans, Pseudallesheria boydli (teleomorph of Scedosporium apiospermum), Penicillium notatum, or Sporothrix schenkii. The probes can be used for differentiating filamentous fungal species from asph other and from other modernic final ferentiating filamentous fungal species
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New nucleic acid probes for filamentous fungi - for detecting e.g. Aspergillus, Fusarium, Mucor, Rhizopus, Rhizomucor, Absidia, Cunninghamella, Pseudoallescheria boydii, Penicillium and Sporothr
                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1; Page 11; 45pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            species
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI;
       241
                                        238
                                                                        181
                                                                                                                                              121
                                                                                                          180
                                                                                                                                                                              121
                                                                                                                                                                                                                61
                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                                                                          l aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
gtgttgggccctcgtcccccggctcccgggggacgggcccgaaaggcagcggcggcaccg
                                                                                   gtgttgggtcgtcgtccccc--cccccgggggacgggcccgaaaggcagcggcaccg
                                                                                                                                     ctggtattccgggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgt
                                                                                                                                                        ctggcattccggg-gggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgt
                                                                                                                                                                                                        aactaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                                                                                                                                                                                                            aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                          aaactttcaacaatggalctcttggttccggcatcgatgaagaacgcagcgaaatgcgat 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 each other and from other medically important fungi.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1999-034737/03
                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                     355
                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                   B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                   62
                                                                                                                                                                                                                                                                                                                                                                                                                                 A; 105
                                                                                                                                                                                                                                                                                                                                                              63.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Ç
                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                            Score 230.4; DB 20,
Pred. No. 2.3e-59;
0; Mismatches 31;
                                                                                                                                                                                                                                                                                                                                                                                                                                103 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                 85
                                                                                                                                                                                                                                                                                                                                                                                                                                 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                              20;
                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sporothrix
                                                                                                                                                                                                                                                                                                                                                13;
                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                        180
                                                                                                                                                                                                                                                                                                              60
     299
                                     296
                                                                     240
                                                                                                     237
                                                                                                                                                                                                          120
```

ŝ

```
RESULT
AAA7278
                                                                                                                                                   2782
                                        Black
field
                                                                      5.8s rRNA gene sequence.
WO200046397-A1
                                                                                              13-DEC-2000
                                                                                                                                      AAA72782
                   Aspergillus flavus
                                                                                                                                                            6
                                       spot o
                                                                                                                                      standard;
                                                   disease;
                                        Alternaria;
                                                                                           (first entry)
                                                                                                                                      DNA; 382
                                       brown
ria; 5
                                       spot disease; fungi; fruit vegetable;
.8s rRNA; detection; ds.
                                                                                                                                      ΒP
```

В Š

300 297

gccgaacgcatttatttgcaacttgtttttttttccaggttgacctcggatcaggt 355 agccggcgtctcca-----accttatctttctcaggttgacctcggatcaggt 344

```
RRESULT
AAZ22437
ID AAZ22437
XX AAZ
XX AAZ
XX AAZ
XX Inte
XX Inte
XX Inte
XX PCR
XX PCR
XX PCR
XX Pen1
                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to a nucleic acid based method for the detection of Alternaria contamination in a food product. The method involves obtaining and analysing a food product sample for a nucleic acid sequence unique to Alternaria. Detectable levels of the nucleic acid sequence can be used as an indication of Alternaria contamination. Fungi from the genus Alternaria are ubiquitous saprophytes and are economically important pathogens affecting a wide range of plants. Alternaria are the causative agents of black or brown spot disease in many fruits, vegetables and field crops. The method is used for the detection of Alternaria contamination in food products. The present sequence represents the Aspergillus flavus 5.8s rRNA gene, used in examples
Penicillium crustosum
                                                                                                        02-DEC-1999
                                                                                                                                                                AA222437 standard;
                            Internal Transcribed Spacer; ITS;
PCR; microorganism; wine-making; c
                                                                       Internal Transcribed Spacer of P.crustosum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Examples; Fig 1; 47pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   contamination in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nucleic acid based assay and kit for detection of Alternaria contamination in food products involves analysing the sample
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-FEB-1999;
                                                                                                                                                                                                                                          338
                                                                                                                                                                                                                                                                                                     278
                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (TECR ) TECHNION RES & DEV FOUND (KASH/) KASHI Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24-JAN-2000; 2000WO-US01466
                                                                                                                                                                                                                                                                        238
                                                                                                                                                                                                                                                                                                                                                                                                                         158
                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86
                                                                                                                                                                                                7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            glccggtcctcgagcgtatggggcttggtcacccgctc
                                                                                                                                                                                                                                                                                                                gtgttgggtcgtcgtcccc-ccccccgggggacgggcccgaaaggcagcggcggcaccg- 237
                                                                                                                                                                                                                                                                                                                                                                            ctggcattccggggggcatgcctgtccgagcgtcattgctgccc-tcaagcccggcttgt 179
                                                                                                                                                                                                                                       gtccgatcctcgagcgtatggggctttgtcacccgctc
                                                                                                                                                                                                                                                                                                 gtgttgggtcgtcccctctccgggggggacgggccccaaaggcagcggcggcaccgc
                                                                                                                                                                                                                                                                                                                                                          ctggtattccggggggcatgcctgttcgagcgtcattgctgcccatcaagcacggcttgt
                                                                                                                                                                                                                                                                                                                                                                                                                    aactagtgtgaattgcagaattccgtgaatcatcgagtctttgaacgcacattgcgcccc
                                                                                                                                                                                                                                                                                                                                                                                                                                    aagtaalgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           al Similarity
262; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     for nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 382 BP; 72 A; 111 C; 114 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9908-0241427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sharf R,
                                                                                                                                                                  DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60.68;
                                                                                                                                                                  498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        pred. No. 1.4e
0; Mismatches
                                                                                                                                                                  ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hallerman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LTD
                            fungus; yeast;
commercial; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unique to Alternaria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   T; 1 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .4e-56;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB_21; Length 382;
                                                                                                                                                                                                                                                                        275
                                           fermentation; assay;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ω
--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of food
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                            277
                                                                                                                                                                                                                                                                                                                                                                                                                    217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ω
••
```

```
RESULT
AAX90111
ID AAX9
XX
AC AAX9
                                                                                                                                       Š
                                                                                                                                                                       В
                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity Matches 268; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fermentation-related microorganisms, particularly those involved in the production of wine. The invention utilizes a polymerase chain reaction (PCR) based diagnostic assay of DNA sequences located in the Internal Transcribed Spacer (ITS) region of the ribosomal RNA gene. Ribosomal genes are suitable for use as molecular probe targets because of their high copy number. Non transcribed and transcribed spacer sequences associated with ribosomal genes are usually poorly conserved and, thus, are advantageously used as target sequences for the detection of recent evolutionary divergence. Fungal rRNA genes are organized in units. Each unit encodes mature subunits of 185, 585 and 285 rRNA. The ITS region lies between the 185 and 285 rRNA genes and contains two variable non-coding spacers (ITS1 and ITS2) and the 5.85 rRNA gene.
   AAX90111;
                               AAX90111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This invention is directed to the identification of different
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This is the nucleotide sequence for the Internal Transcribed Spacer (ITS) of P.crustosum. This sequence was amplified directly from the isolate by the ITS5 (AA222530) and ITS4 (22531) primers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 32; 52pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New isolated fungal and yeast nucleic acids, used for identifying different fermentation-related microorganisms, particularly in wine fermentation cultures \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1999-551425/46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO9946405-A1
                                                                                                          415
                                                                                                                                                                                                                                                                                                                                                        176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16-SEP-1999
                                                                                                                                         239
                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                             236
                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                   ب
                                                           8
                                                                                                                    aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
                                                                                                                                                                               tgttgggtcgtcgtccc-ccccccgggggacgggcccgaaaggcagcggcggcaccg-g
                                                                                                                                                                                                                          ctggtattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                         ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                       aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                                                                                      tgttgggccccgtcccccgatctccggggggacggcccgaaaggcagcggcggcaccgcg
                                                                                                                                                                                                                                                                                       acgtaatgtgaattgca-aattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                                                                                                                                                                                                                                                                                                                                  aaactttcaacaacggatctcttggttccggcatcgatgaagaacgcagcgaaatgcgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SR,
                              standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Descenzo RA,
                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WINERY E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98US-0037990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99WO-US04251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     93 A; 154 C; 139 G; 112 T; 0 other;
                              DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                             60.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    en
                              010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Morenzoni RA,
                            ВP
                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                           Score 220.6; DB 2
Pred. No. 2.3e-56;
                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Irelan
                                                                                                                                                                                                                                                                                                                                                                                                             24; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                      20; Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ž
                                                                                                                                                                                                                                                                                                                                                                                                                                             498;
                                                                                                                                                                                                                                                                                                                                                                                                               ų.
                                                                                                       469
                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the
                                                                                                                                                                                                                             354
                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                   235
                                                                                                                                                                                                                                                                                                                                                                                60
```

294

'n

17-SEP-1999

(first entry)

```
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 281;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present invention describes oligonucleotides (I) for identifying fungal pathogens, especially of grape plants. The oligonucleotides are isolated double stranded nucleic acids representing the internal transcribed spacer (ITS) I and 2 of ribosomal RNA genes from the organisms Eutypella vitis, Eutypa lata, Phomopsis viticola or Diplodia gossypina. The oligonucleotide are used to detect the fungal pathogens Eutypella vitis, Eutypa lata, Phomopsis viticola or Diplodia gossypina, especially when infecting grape plants. The detection method is used in the wine industry. AAX90075 to AAX9004 represent specifically claimed oligonucleotides from the present invention. AAX9005 to AAX90105 represent specifically claimed PCR primers for use in the detection of the fungal pathogens Eutypella vitis, Eutypa lata, Phomopsis viticola or Diplodia gossypina. The present sequence represent the present sequence represent are processed to the fungal pathogens Eutypella vitis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        grape; ribosomal RNA gene region; identification; wine; ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel primers targeted to internal transcribed spacer region fungal pathogen ribosomal DNA genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1999-429921/36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Descenzo RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       08-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ITS1; ITS2; internal transcribed spacer; detection; fungal pathogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Phomopsis viticola (variant 2) internal transcribed spacer DNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 610 BP; 150 A; 175 C; 163 G; 122 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Phomopsis viticola
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (GALL-) GALLO WINERY E & J.
                                                                                                                       469
                                                                                                                                                                                                                                           412
                                                                                                                                                                                                                                                                                                                                                               352
                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        232
                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                               ggcgtctccaaccttatctt~tctcaggttgacctcggatcaggtagggatacccgctga
                                                                                                                                                                                                                                                                                                                                                                                     ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagccccggcttgtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aagtaalgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                        gatggggcactgctcccccccccggggagcaggccctgaaatccagtggcgagctcg---
                                                                                                                                                                                                                                                                 tgttgggtcgtcgtcccccccccgggggacgggcccgaaaggcagcggcggcgccggtc 240
                                                                                                                                                                                                                                                                                                                                                         aaactttcaacaacggatctcttggttctggcatcgatgaagaacgcagcgaaatgcgat 291
tgccgttaaacccccaacttctgaaagtttgacctcggatcaggtaggaatacccgctga
                                                                                                                 ---ccaggaccccgagcgcagtagttaaaccctcgctccgggaggccctggcggtgccc
                                                                                                                                                      aagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcacattgcgccct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA sequence from the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Page 32; 43pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Engel SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97US-0986727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98WO-US25210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  56.7%;
76.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Irelan NA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 206.8; DB ZU; Pred. No. 3.3e-52; 77;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 610;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            в,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              represents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                       524
                                                                                                                                                                                                                                           468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N
```

밁

ş

Q

8 6 B

Š

112 ttgcgcccctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcc 171

04 04 04 B 8

```
RESULT
AAV70872
ID AAV7
                                                                                                                                                      밁
 В
                              QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                             and adjacent regions. Probes can be derived from the present sequence which are species specific. The specification also describes ITS2 sequence-derived probes for identifying a species selected from Aspergillus flavus, A. fumigatus, A. niger, A. terreus, A. nidulans, Pusarium solani, F. moniliforme, Mucor rouxii, M. racemosus, M. plumbeus, M. indicus, M. circinilloides f. circinelloides, Rhizopus oryzae, R. microsporus, R. circinans, R. stolonifer, Rhizomucor pusillus, Absidia corymbifera, Cunninghamella elegans, Pseudallesheria boydii (teleomorph of Scedosporium apiospermum), Penicillum notatum, or Sporothrix schenkii. The probes can be used for differentlating filamentous fungal species from each other and from other medically
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Internal transcribed spacer 2; ITS2; probe; Aspergillus flavus; A. niger; A. terreus; A. nidulans; Fusarium solani; F. moniliforme; Mucor rouxii; M. racemosus; M. plumbeus; M. indicus; A. funigatus; M. circinilloides f. circinelloides; Rhizopus oryzae; R. microsporus; R. circinans; R. stolonifer; Rhizomucor pusillus; Absidia corymbifera; Cunninghamella elegans; Pseudallesheria boydii; Scedosportium apiospermum; Penicillium notatum; Sporothrix schenkii; filamentous fungus; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New nucleic acid probes for filamentous fungi - for detecting e.g. Aspergillus, Fusarium, Mucor, Rhizopus, Rhizomucor, Absidia, Cunninghamella, Pseudoallescheria boydii, Penicillium and Sporothrix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAV70872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360 acttaa
|||||||
585 acttaa
                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 1; Page 19; 45pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1999-034737/03.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAV70872 standard; DNA; 309
                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                      The present sequence represents an internal transcribed spacer 2 (ITS2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Aidorevich L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAY-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Penicillum notatum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-FEB-1999
                                                                                                                                                                                    important fungi
                                   52
                                                                    Local Similarity hes 274; Conserv
   _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ø
               aactgcgataagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcaca 111
aaatgcgatacgtaatgtgaattgca-aattcagtgaatcatcgagtctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ) US DEPT HEALTH & HUMAN SERVICES
                                                                                                                                                  309 BP; 57 A; 92 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             365
                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Choi JS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97US-0045400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              98WO-US08926
                                                                                 56.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   spacer 2 (ITS2) and adjacent regions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Morrison CJ, Reiss
                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ВP
                                                                                 Score 206.6; DB Pred. No. 3e-52;
                                                                                                                                                  91 G;
                                                                   Mismatches
                                                                                                                                                    69 T; 0 other;
                                                                                                 BG
                                                                                                  20;
                                                                   Indels
                                                                                                  Length 309;
                                                                 Gaps
   59
                                                                   4.
```

S

2

```
RESULT 10
AAX90112
ID AAX901
                                                       á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                              CC The present invention describes oligonucleotides (I) for identifying fungal pathogens, especially of grape plants. The oligonucleotides CC are isolated double stranded nucleic acids representing the internal CC transcribed spacer (ITS) I and 2 of ribosomal RNA genes from the Organisms Eutypella vitis, Eutypa lata, Phomopsis viticola or Diplodia gossypina. The oligonucleotide are used to detect the fungal CC pathogens Eutypella vitis, Eutypa lata, Phomopsis viticola or Diplodia Gossypina, especially when infecting grape plants. The detection method CC is used in the wine industry. AAX90075 to AAX90094 represent specifically claimed oligonucleotides from the present invention. CC AAX90095 to AAX90105 represent specifically claimed PCR primers for use in the detection of the fungal pathogens Eutypella vitis, Eutypa lata, CC Phomopsis viticola or Diplodia gossypina. The present sequence represents CC an ITS DNA sequence from the present invention.
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      07-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Diplodia gossypina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    grape;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ITS1; ITS2; internal transcribed spacer; detection; fungal pathogen;
grape; ribosomal RNA gene region; identification; wine; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Diplodia gossypina internal transcribed spacer DNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAX90112;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAX90112 standard;
                                                                                                                                                                                                                                                                                                  Disclosure; Page 32-33; 43pp; English.
                                                                                                                                                                                                                                                                                                                                                                         WPI; 1999-429921/36
                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-SEP-1999
                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                    Descenzo
                                                                                                                                                                                                                                                                                                                                                                                                                               (GALL-) GALLO WINERY E & J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   acccgctgaacttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cggcttgtgtgttgggtcgtcgcccccccccggggggacgggcccgaaaggcagcggcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      acccyctgaacttaa 309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ggcgccagccggcgtctccaaccttatcttctcaggttgacctcggatcaggtagggat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gcaccgcgtccggtcctcgagcgtatggggctttgtcacccgctc--tgtaggcccggcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cggcttgtgtgttgggccccgtcctccgatcccggggggacgggcccgaaaggcagcggcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ttgcgccccctggtattccggggggcatgcctgtccgagcgtcattgctgccctcaagca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ggcgcttgccgatcaacccaaattt----ttatccaggttgacctcggatcaggtagggat
                                                                                                                                                                                                                                                                                                                                            primers targeted to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ribosomal RNA
                                                                                                                                                                                                                                                                                                                             orimers targeted to internal transcribed spacer region pathogen ribosomal DNA genes
                                                                                                                                                                                                                                                                                                                                                                                                    RA,
                                                        568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                    Engel SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                           97US-0986727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98WO-US25210.
                                                        142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA;
                                                       A; 147
  55
76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    568
                                                                                                                                                                                                                                                                                                                                                                                                      Irelan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    region;
                                                        ç;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ВP
  Score
Pred.
                                                          144
                                                                                                                                                                                                                                                                                                                                                                                                      NA.
                                                        <u>ن</u>
  203.8; DB 20;
No. 2.5e-51;
                                                          135
                                                          7.
                                                          0 other;
              Length 568;
                                                                                                                                                                                                                                                                                                                                                of
                                                                                                   represents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         231
```

```
RESULT 11
AAH73767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                 õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
Matches
                                                                                                                                                                                                                                                                  Ribosomal RNA gene; rRNA gene; internal transcribed spacer; ITS; pathogenic; citrus blackspot disease; citrus fruit; differentiation;
                                                                                                                                                                                                                 rRNA
                                                                                                                                                                                                                       Key
                                                                                                                                                                                                                                         Guignardia citricarpa
                                                                                                                                                                                                                                                                                             Guignardia
                                                                                                                                                                                                                                                                                                               08-OCT-2001
                                                                                              rRNA
                                                                                                                                                   rRNA
                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                AAH73767;
                                                                                                                                                                                                                                                                                                                                                  AAH73767 standard;
                                 26-JUL-2001
                                                  WO200153318-A2
                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              191
                                                                                                                                                                                                                                                                                                                                                                                                                                 485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                              542 cttaa
                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aaactttcaacaacggatctcttggttctggcatcgatgaagaacgcagcgaaatgcgat 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgggat
                                                                                                                                                                                                                                                                                                                                                                                                              cttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aagtaatgtgaattgc%quattcagtgaatcatcgagtcttttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----gaattgggcaccgtcctcactgcggacgcgcctcgaagacctcggcggtggctgtt 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ttggtattccggggggcatgcctgttcgagcgtcattacaaccctcaagctctgcttg--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aagtaatgtgaattgcayaattcagtgaatcatcgaatctttgaacgcacattgcgcccc
                                                                                                                                                                                                                                                                                                                                                                                                                                gaaccttctgaacttttct---caaggttgacctcggatcaggtagggatacccgctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                        ggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 279;
                                                                                                                                                                                                                                                                                                                                                                                              546
                                                                                                                                                                                                                                                                                                                                                                                                               365
                                                                                                                                                                                                                                                                                             citricarpa rRNA gene ITS region,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                        /product-
425..589
                                                                                                                                                                            /product=
33..266
                                                                  /partial
/product=
                                                                                           /*tag= d
/note= *Internal
590..640
                                                                                                                                                 /*tag= b
/note= "Internal
267..424
                                                                                                                                        /*tag=
                                                                                                                                                                                             /partial
                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                       /*tag=
                                                                                     /*tag=
                                                                                                                                                                                                                                                            detection;
                                                                                                                                                                                                                                                                                                                                                  DNA;
                                                                                                                                         a
                                                                                     Ф
                                                                                                                                                                                                                                                                                                                                                  640
                                                                                                                                                                                     "18S
                                                                    "28S ribosomal RNA"
                                                                                                                                 <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                  ВP
                                                                                                                                                                                                                                                            ds
                                                                                                                                 .
88
                                                                                                                                                                                      ribosomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                 ribosomal RNA
                                                                                                                                                           transcribed
                                                                                                      transcribed spacer (ITS)
                                                                                                                                                                                                                                                                                               SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77;
                                                                                                                                                           spacer (ITS)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                               NO:4.
                                                                                                        2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          368
                                                                                                                                                                                                                                                                                                                                                                                                                                  541
```

19-JAN-2000; 2000US-0177013 19-JAN-2001; 2001WO-US01735

```
Ş
                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                             Q
                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S
Matches 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               growing industry, as many countries do not permit the importation of affected fruit. However, there is a second, non-pathogenic Guignardia species, Guignardia citricarpi, which also infects citrus fruit, but which forms insignificant lesions. This non-pathogenic Guignardia species is morphologically almost indistinguishable from the pathogenic Guignardia citricarpa, and both species may be simultaneously present on one fruit. The primers of the invention are targetted to the internal transcribed spacer (ITS) regions of the ribosomal RNA gene of either the pathogenic Guignardia citricarpa (see AAH73767) or the non-pathogenic Guignardia citricarpa (see AAH73767) or the non-pathogenic Guignardia citricarpa (see AH73767) or the non-pathogenic Guignardia citricarpa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to oligonucleotide amplification primers methods for the detection of pathogenic Guignardia citricarpa citricarpa is a fungus which causes citrus blackspot disease, processes of the control of t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        progressive black surface lesions on the fruits of most commercial citrus cultivars such as oranges, lemons, limes, and grapefruit. Although this is a cosmetic disease, it causes significant losses to the citrus fruit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 11; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New differentiating oligonucleotides which hybridizes with a target DNA sequence associated with pathogenic or non-pathogenic species of Guignardia, for differentiating pathogenic from non-pathogenic species
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (UYOR-) UNIV OREGON
  620
                                                                                                         560
                                                                                                                                                          301
                                                                                                                                                                                                             500
                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                              447
                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                     387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 _
                                                                                                                                                                                                                                                                                                                                                                                                                aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
  gaacttaa
                                                      gaacttaa
                                                                                                                                 ---gcgtctccaaccttatcttctcaggttgacctcggatcaggtagggatacccgct
                                                                                                                                                                                                             cagcctcgagcgtagtagtaaaatatctcgctttggaggagggggggcgctggccgccggac
                                                                                                                                                                                                                                           attgg-
                                                                                                                                                                                                                                                                                                                                         tgttgggtcgtcgtccccccccggggggacgggcccgaaaggcagcggcggcaccggtc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aaactttcaacaacggatctcttggttctggcatcgatgaagaacgcagcgaaatgcgat
                                                                                                      aatcgaccttcggtcactatttttccaaggttgacctcggatcaggtagggatacccgct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcacattgcgcccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   152
                                                                                                                                                                                                                                                                                                              gcgacgtccgctgccggacgcgcctggaagacctcggcgacggcgtct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            53.58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ű
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 195.2; DE Pred. No. 1e-48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G; 152 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 22; Length 640;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       83;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       producing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
Guignardia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                    499
                                                                                                                                                                                                                                                                                                                                                                                                                     446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                            619
                                                                                                                                                          357
                                                                                                                                                                                                                559
                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2
                                                Ş
                                                                                                      В
                                                                                                                                                       õ
                                                                                                                                                                                                             DЬ
                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                  Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ITS1;
  410
                                                   181
                                                                                                         351
                                                                                                                                                          121
                                                                                                                                                                                                             291
                                                                                                                                                                                                                                                                                                                 231
                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                     276;
```

RESULT :

```
δÃ
  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention describes oligonucleotides (I) for identifying fungal pathogens, especially of grape plants. The oligonucleotides are isolated double stranded nucleic acids representing the internal transcribed spacer (ITS) 1 and 2 of ribosomal RNA genes from the organisms Eutypella vitis, Eutypa lata, Phomopsis viticola or Diplodia gossyphna. The oligonucleotide are used to detect the fungal pathogens Eutypella vitis, Eutypa lata, Phomopsis viticola or Diplodia gossyphna, especially when infecting grape plants. The detection method is used in the wine industry. ANX90075 to ANX9004 represent specifically claimed oligonucleotides from the present invention. ANX90095 to ANX90105 represent specifically claimed PCR primers for use in the detection of the fungal pathogens Eutypella vitis, Eutypa lata, Phomopsis viticola or Diplodia gossyphna. The present sequence represents an ITS DNA sequence from the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Page 31; 43pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Phomopsis viticola
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAX90110 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Descenzo RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO9929899-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 fungal pathogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (GALL-) GALLO WINERY E & J.
  467
                                                                                                                                                                                                                                                                                                                                                                                                               1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                                        ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                                                                      aaactttcaacaacggatctcttggttctggcatcgatgaagaacgcagcgaaatgcgat 290
                                                                                                                                                                                                                                                                                                                aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                          tgatggggcactgcttcttacccaaggagcaggccctgaaattcagtggcgagctcg---
                                                                                                                                                                                         ctggtattccggagggcatgcctgttcgagcgtcatttcaaccctcaagcctggcttg
                                                                                                                                                                                                                                                                                      aagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcacattgcgccct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 primers targeted to
l pathogen ribosomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ITS2; internal transcribed spacer; detection; fungal pathogen;
; ribosomal RNA gene region; identification; wine; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
-ccaggaccccgagcgcagtagttaaaccctcgctctggaaggccctggcggtgccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               viticola
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                51.6%;
nilarity 75.4%;
Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Engel SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97US-0986727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 98WO-US25210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (variant 1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; 166 C; 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Irelan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        internal transcribed spacer region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 188.4;
Pred. No. 1.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            135 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .1e-46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  spacer DNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     608;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of.
                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                            350
                                               300
                                                                                            466
                                                                                                                                                                                            409
                                                                                                                                            240
```

w

```
RESULT 1
AAH73768
 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       á
The invention relates to oligonucleotide amplification primers and methods for the detection of pathogenic Guignardia citricarpa. Guignardia citricarpa is a fungus which causes citrus blackspot disease, producing progressive black surface lesions on the fruits of most commercial citrus cultivars such as oranges, lemons, limes, and grapefruit. Although this is a cosmetic disease, it causes significant losses to the citrus fruit that a cosmetic disease, it causes and proper in the citrus fruit is a cosmetic disease.
                                                                                                                           New differentiating oligonucleotides which hybridizes with a target DNA sequence associated with pathogenic or non-pathogenic species of Guignardia, for differentiating pathogenic from non-pathogenic species
                                                                                                                                                                            HPI;
                                                                                                                                                                                                                                                                                                                                                                             rRNA
                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Guignardia citricarpa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         characterisation; detection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Guignardia citricarpi rRNA gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAH73768;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAH73768 standard;
                                                                                           Claim
                                                                                                                                                                                                                        (UYOR-) UNIV OREGON
                                                                                                                                                                                                                                               19-JAN-2000; 2000US-0177013
                                                                                                                                                                                                                                                                      19-JAN-2001; 2001WO-US01735
                                                                                                                                                                                                                                                                                                                     WO200153318-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                   r RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     non-pathogenic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                acttaa
||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     acttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ggcgtctccaaccttatctt-tctcaggttgacctcggatcaggtagggatacccgctga 359
                                                                                                                                                                            2001-465362/50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tgccgttaaacccccaacttctgaaaatttgacctcggatcaggtaggaatacccgctga 582
                                                                                           14;
                                                                                                                                                                                                   ရှ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RNA gene; rRNA gene; internal transcribed spacer;
genic; citrus blackspot disease; citrus fruit; difi
                                                                                           Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                           2;
                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag= b
/note= "Internal
262..419
                                                                                                                                                                                                                                                                                                                                                                                                              /product=
420..582
                                                                                                                                                                                                                                                                                                                                                                           /*tag= d
/note= "Internal
583..618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product=
32..261
                                                                                          33pp;
                                                                                                                                                                                                                                                                                                                                          /partial
/product= "28S ribosomal RNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                   /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                  /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA;
                                                                                           English.
                                                                                                                                                                                                                                                                                                                                                                 Φ
                                                                                                                                                                                                                                                                                                                                                                                                                                     c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "18S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ВP
                                                                                                                                                                                                                                                                                                                                                                                                                            .
88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ribosomal RNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ITS region, SEQ ID NO:5
                                                                                                                                                                                                                                                                                                                                                                                                                            ribosomal
                                                                                                                                                                                                                                                                                                                                                                                       transcribed spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                            transcribed spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      fruit; differentiation;
                                                                                                                                                                                                                                                                                                                                                                                       (ITS)
                                                                                                                                                                                                                                                                                                                                                                                                                                                            (ITS)
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        999999999999999888
    당
                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      affected fruit. However, there is a second, non-pathogenic Guignardia species, Guignardia citricarpi, which also infects citrus fruit, but which forms insignificant lesions. This non-pathogenic Guignardia species is morphologically almost indistinguishable from the pathogenic Guignardia citricarpa, and both species may be simultaneously present on one fruit. The primers of the invention are targetted to the internal transcribed spacer (ITS) regions of the ribosomal RNA gene of either the pathogenic Guignardia citricarpa (see AAH7376), or the non-pathogenic Guignardia citricarpa (see AAH7376), and provides a means by which the two species may be distinguished from one other. The present sequence
               misc_feature
                                                      misc_feature
                                                                                             misc_feature
                                                                                                                                     Kabatiella
                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                   26-OCT-1998
                                                                                                                                                                                                                                                                     AAV43265 standard; DNA; 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 618
                                                                                                                                                              Internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              represents the rRNA gene ITS region of the non-pathogenic Guignardia
                                                                                                                                                                                                                                                                                                                                          615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             322
                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                            555
                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
                                                                                                                                                                                                                                                                                                                                                                   actt 363
                                                                                                                                                                                                                                                                                                                                                                                          aatcgaccttcggtctatttttccaaggttgacctcggatcaggtagggatacccgctga
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg 180
                                                                                                                                                                                                                                                                                                                                                                                                         cggcgtctccaaccttatcttctccaggttgacctcggatcaggtagggatacccgctga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    attgg-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tgttgggtcgtcgtcccccccccggggggcgggcccgaaaggcagcggcggcaccggtc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcacattgcgccct
                                                                                                                                                                                                                                                                                                                                         actt 618
                                                                                                                                                                                                                                                                                                                                                                                                                                             tagcctcgagcgtagtagtaaaatatctcgctttggagtgctgggcgacggccgccggac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ctggtattccggagggcatgcctgttcgagcgtcatttcaaccctcaagctctgcttggt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aaactttcaacaacggatctcttggttctggcatcgatgaagaacgcagcgaaatgcgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                       of ITS region from Kabatiella zeae,
                                                                                                                                      zeae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BP;
                                                                                                                                                                                                                (first entry)
                                          /note= "3'
31..217
/*t=-
/note= "ITS1"
218..373
/*tag= c
                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     146 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gcaacgtccgctgccggacgtgccttgaagacctcggcgacggcgtcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 50.4%;
                                                                                                                                                              spacer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      159 C;
                                                                   end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                              ITS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 184;
Pred. No. 2
                                                                   of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      155 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                   small subunit rRNA gene"
                                                                                                                                                              detection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      158 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 22;
2.2e-45;
nes 90;
                                                                                                                                                                                        isolate 56351
                                                                                                                                                              maize;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 618;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                              fungal pathogen; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                      359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ?
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                               В
                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                   á
밁
              ő
                                          В
                                                            Q
                                                                                     DЪ
                                                                                                        Ş
                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                 ş
                                                                                                                                                                                                                                                                                                                         Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                       AAV42363-70 represent internal transcribed spacer (ITS) DNA sequences that are unique to the organis from which they are isolated. The specification describes a method for the detection of a maize fungal pathogen. The method comprises isolating DNA from a plant leaf infected with a pathogen, subjecting the DNA to PCR amplification using at least one primer derived from the ITS sequence (see AAV43277-303).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New internal transcribed spacer sequences of maize fungal pathogens and primers and primer pairs - used to detect pathogens e.g. Helminthosporium carbonum, Cercospora zeae-maydis and Kabatiella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1998-429687/37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (NOVS ) NOVARTIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-NOV-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         03-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EP859061-A2
                                                                                                                                                                                                                                                                           217
                                                                                       451
                                                                                                                                     395
571
                    359
                                                                 301
                                                                                                                                                           181
                                                                                                                                                                                                        121
                                                                                                                                                                                                                              277
                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                 Match
         illill
                                                                                                                                                                                            ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                        aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                       ggcgtctccaacc--ttatctttctcaggttgacctcggatcaggtagggatacccgctg
                                                                                                     ----gtattgggcgtccgtcctttcggggggcgcctcaaacacctcggcgaggcctcac
                                                                                                                                                 tgttgggtcgtcgtcccccccccgggggacgggcccggaaaggcagcggcaccggtc
                                                                                                                                                                                                                              aagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcacattgcgcccc
                                                                                                                                                                                                                                        aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                            aaactttcaacaacggatctcttggttctcgcatcgatgaagaacgcagcgaaatgcgat 276
aacttaa
                                           gccgacagaaaccttttatattttctaggttgacctcggatcaggtagggatacccgctg
                                                                                                                                                                                 ttggtattccgaggggcatgcctgttcgagcgtcattacaccactcaagctctgcttg--
                                                                                       cggcttcaggcgtagtagaattcattcaatcaacgtctggcgaaaccggaggggacttct
                                                                                                                                                                                                                                                                                                                          265; Conservative
                                                                                                                                                                                                                                                                                                                                                                                   597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pages 19-20; 49pp; English.
                                                                                                                                                                                                                                                                                                                                                                                  BP;
                     365
577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /*tag= d
/note= "ITS2"
541..597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96US-0742023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97EP-0810779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= "5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag= e
/note= "5' end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /*tag=
                                                                                                                                                                                                                                                                                                                                                                                   146
                                                                                                                                                                                                                                                                                                                                    49.5%;
72.2%;
                                                                                                                                                                                                                                                                                                                                                                                   Α.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "5.8S
                                                                                                                                                                                                                                                                                                                                                                                   156
                                                                                                                                                                                                                                                                                                                                                                                   ü
                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                          Score 180.6; DB 1
Pred. No. 2.3e-44;
0; Mismatches 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rRNA
                                                                                                                                                                                                                                                                                                                                                                                   153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of large
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gene"
                                                                                                                                                                                                                                                                                                                                                                                   G; 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             subunit rRNA
                                                                                                                                                                                                                                                                                                                                                                                   7
                                                                                                                                                                                                                                                                                                                                                 DB 19; Length
                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                             94:
                                                                                                                                                                                                                                                                                                                                                                                   other;
                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene"
                                                                                                                                                                                                                                                                                                                          8;
                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                      450
                                                                                                                                                                                                          180
                                                                                                                                                                                                                              336
                                                                                         510
                                                                                                                                                           240
                                                                                                                                                                                   394
                                                                                                                                                                                                                                                                                                                          2;
```

```
RESULT :
             Ş
                                                            Š
                                                                                                          Qy
                                                                                                                                      DЬ
                                                                                                                                                                                                                                                      В
                                                                                    В
                                                                                                                                                            δÃ
                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 265; Conserv
                                                                                                                                                                                                                                                                        This sequence represents an internal transcribed spacer (ITS) sequence of the invention. The primer pairs, based on the ITS sequences, are used for the PCR amplification detection of wheat Microdochium and Fusarium fungate pathogens, especially M. nivale, F. graminearum, F. culmorum, pathogens, especially M. nivale, F. graminearum, F. culmorum, F. expectation, F. poae, F. moniliforme or F. roseum. The two different strains of fungi show different symptoms during infection, which may or may not be due to infection. Early identification of the strain causing the infection allows early, and more specific fungicidal treatment.
                                                                                                                                                                                                                                                                                                                                                                                                                                   Wheat
basis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAV59009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAV59009 standard; DNA;
                                                                                                                                                                                                                                                   Sequence 561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1998-593995/50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 27-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US5827695-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fusarium avenaceum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Internal transcribed spacer; ITS; Microdochium; Fusarium; wheat pathogen; fungal pathogen identification; infection identification; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (NOVS ) NOVARTIS FINANCE CORP
              177
                                      301
                                                                                     241
                                                                                                                                       181
                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15
                                                                                                             61
                                                                                                                                                               _
tgtgtgttgggtcgtccccccccccgggggacgggcccgaaaggcagcggcggcacc
                                                ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagccc----ggct
                                                                                                aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
                                   ctggtattccggcgggcatgcctgttcgagcgtcatttcaaccctcaagcccccgggttt
                                                                                    aagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcacattgcgcccg
                                                                                                                                     aaactttcaacaacggatctcttggttctggcatcgatgaagaacgcagcaaaatgcgat
                                                                                                                                                                                                                                                                                                                                                                                                                    pathogen internal transcribed spacer for primers for the species-specific tion of the pathogens
                                                                                                                                                                                                                                                                                                                                                                                               Column
                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                   BP; 145 A; 152 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "ITS1"
339..504
/*tar-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97US-0905314.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97US-0905314
                                                                                                                                                                                                                                                                                                                                                                                               29-30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note- "ITS2"
                                                                                                                                                                                                   49.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                transcribed
                                                                                                                                                                                                                                                                                                                                                                                           20pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ΒP
                                                                                                                                                                                     Score 180.2; DB Pred. No. 3e-44; 2; Mismatches
                                                                                                                                                                                                                                                   135 G; 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                spacer
                                                                                                                                                                                                                                                   T; 3 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                 sequences - used polymerase chain
                                                                                                                                                                                                                DB 19;
                                                                                                                                                                                        90;
                                                                                                                                                                                        Indels
                                                                                                                                                                                                                Length
                                                                                                                                                                                        12;
                                                                                                                                                                                                                                                                                                                                                                                                                                   as a
reaction
                                                                                                                                                                                                                                                                                                                                        s) sequence of , are used for usarium fungal
                                                                                                                                                                                                                                                                                                                                                                                                                                             as
                                                                                                                                                                                       Gaps
                                                                                     300
                                                                                                              120
                                                                                                                                       240
                                                                                                                                                                                        'n
```

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                              Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Total number of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Searched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scoring table:
C
                                                        C
                                                                                                                     000000
                                                                                                                                                                                                                                                                                                   o o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9n:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                     178.8
149.2
143.8
141.4
141.4
141.4
141.4
141.4
141.4
141.4
                                                                                                                                                                                                                                                                                                                                                              Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                         Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hits satisfying chosen parameters:
EST:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13736207 segs, 6748477542 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-046-955-5
365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  August 21, 2002, 18:03:41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gb_est1:*
gb_est2:*
gb_htc:*
gb_gss:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aaactttcaacaatggatct.....gggatacccgctgaacttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               em_estov:*
em_estpl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            em_gss_hum: *
em_gss_inv: *
em_gss_pln: *
em_gss_vrt: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         em_estro:*
em_htc:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              em_esthum: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      em_estmu:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   em_estba:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           em_estin:*
                                                                                                                                                                                                                                                                                                                                                                Length
882
1117
718
827
866
869
889
902
902
928
936
936
960
                                                                                                                                                                                                                                                                                                                                                                  DВ
                                                                                                                                                                                                                                                           AI213025
AI209736
AA965960
AA783772
                                                                                                                                                                                                                                                                                                                                                                IJ
CNS06DGL
CNS06CUX
CNS06FU6
CNS06CB4
CNS06FXB
CNS06FQZ
CNS06FNV
                                                                                                                                                         CNSO6XIS
CNSO7ARF
CNSO6FTN
CNSO6FVF
CNSO6FVF
                                                                                                                                                                                                                                                                                                                                                                                                                          SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Search time 5019.06 Seconds (without alignments) 981.536 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27472414
                                                                                                                                                                                                                                                           AI213025 y6f01a1.f
AI209736 c7g08a1.f
AA965960 r8a05a1.r
AA783772 c7g08a1.r
                                                                                                                                                                                                                                                                                                                                                              Description
                AL419786
AL4396849
AL3968695
AL3969695
AL3938197
AL3938197
AL3938197
AL3938197
AL3938197
AL3938197
AL39686868
  c7g08al.r
general control cont
```

C		ဂ		O	ი	ဂ		O	ი	O	ဂ		ი	O				O							C	
	4 4 4 W						37	36	35	34	w W	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18
139	139	139	139.2	139.4	139.4	139.4		139.4		•		•			139.4	•	•	•	•	139.4	•	141.4	•	141.4	141.4	141.4
38.1	38.1 1	38.1						•							•	•			•	•	•		•	•	38.7	
481	424 456	360	214	1035	1024	997	985	982	977	966	963	962	961	953	950	943	938	922	885	448	141	1048	1045	1036	1635	1006
12	12	12	10	12	12	12	12	12	12	12	12	12	12	12	12	2	12	12	12	12		12	12	12	12	12
AQ491983	AZ923253 AZ923320	AZ923094	BF251183	CNS06JNJ	CNS06H7C	CNS06HQW	CNS06JLS	CNS06HM6	CNS06J9K	CNS06IlT	CNS06J6G	CNS06G9U	CNS06HT1	CNS06G4R	CNS06JAK	CNS06140	CNS06HIO	CNS06HOU	CNS06HJY	AZ916873	AI327879	CNS06CN3	CNS06CNZ	CNS06DQL	CNS06DA6	CNS06CYY
AQ491983 V114G12 m	AZ923253 4908.gf20 AZ923320 4908.gf20	AZ923094 4908.ge87	BF251183 EST418443	AL401813 T3 end of	AL398638 T3 end of	2 T3 end	0 T3 end	ч.	0 T3 end	9735 T3 end	T7 end	4	T7 end	ш	ТЗ	T7 end	6 T7 end	3 T7 enc	? T3 end	4911.1	j0g06a1	25 T3 end	7 T3 end	47 T7 end	1.1	2 T3 end

ALIGNMENTS

REFERENCE AUTHORS ACCESSION VERSION KEYWORDS SOURCE RESULT 1 AI213025/c COMMENT DEFINITION FEATURES TITLE ORGANISM JOURNAL source Department of Chemistry and Biochemistry
Advanced Center for Genome Technology, University of Oklahoma
620 Parrington Oval, Norman, OK 73019, USA
Tel: 405 325 4912
Fax: 405 325 7762 AI213025
AI213025 Unpublished (1998)
Other_ESTs: y6f0lal.rl
Contact: Bruce A. Roe, University of Oklahoma, broe@ou.edu Emericella nidulans. Emericella nidulans Seq primer: M13-20 High quality sequer We anticipate the future Genetics Stock Center Kupfer,D., Gray,J., Hausner,J., Lai,H., Martin,W., Aramayo,R., Prade,R. and Roe,B.Eurotiales; Trichocomaceae; Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiales; Trichocomaceae; Emericella. Email: broe@ou.edu An Aspergillus nidulans EST Database AI213025.1 GI:3774967 quality sequence stop: 265 Location/Qualifiers /organism="Emericella nidulans"
/strain="FGSC A26"
/strain="FGSC A26"
/db_xref="faxon.162425"
/clone="y6f0la1"
/clone_lib="Aspergillus nidulans 24hr asexual
/clone_lib="Aspergillus nidulans 24hr asexual
developmental and vegetative cDNA lambda zap library"
/tissue_type="vegetative mycella, asexual structures"
/note="Vector: pBlueScript SK-; Site_1: EcoRI; Site_2: release of the cDNA clones to the Fungal Eurotiomycetes;

```
RESULT 2
AI209736/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
       BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        дg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
ORIGIN
                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ccggtcctcgagcgtatg 257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCGGTCCTCGAGCGTATG 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAACTTTCAACAATGGATCTCTTGGTTCCGGCATCGATGAAGAACGCAGCGAACTGCGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTTGGGTCGTCGT - - - CCCCCCCGGGGGACGGGCCCGAAAGGCAGCGGCGCACCGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Al209736 213 bp mRNA linear EST 19-OCT-199 C7908a1.f1 Aspergillus nidulans 24hr asexual developmental and vegetative cDNA lambda zap library Emericella nidulans cDNA clone C7908a1.3', mRNA sequence.
                                                                                                                                                                                                                                                                                       Department of Chemistry and Biochemistry
Advanced Center for Genome Technology, University
620 Parrington Oval, Norman, OK 73019, USA
Tel: 405 325 4912
Fax: 405 325 7762
Fax: 405 325 7762
                                                                                                                                                                                                                           Seq
                                                                                                                                                                                                                                           We anticipate the future release Genetics Stock Center
                                                                                                                                                                                                                                                                                                                                                                                             An Aspergillus nidulans EST Database Unpublished (1998)
Other_ESTs: c7g08al.rl
                                                                                                                                                                                                                                                                                                                                                                                                                                                Kupfer,D., Gray,J., Hausner,J.,
Prade,R. and Roe,B.
                                                                                                                                                                                                                                                                           Email: broe@ou.edu
                                                                                                                                                                                                                                                                                                                                                                              Contact: Bruce A. Roe, University of Oklahoma,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Emericella nidulans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eurotiales; Trichocomaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Fungi; Ascomycota; Pezizomycotina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A1209736.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 213)
                                                                                                                                                                                                                           primer: M13-20
       3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              69
/organism="Emericella nidulans"
/strain="FGSC A26"
/db_xref="taxon:162425"
/dlone="c7908a1"
/clone="c7908a1"
/clone=lib="Aspergillus nidulans 24hr asexual
developmental and vegetative cDNA lambda zap library"
/tissue_type="vegetative mycelia, asexual structures"
/note="Vector: pBlueScript SK:; Site_1: EcoRI; Site_2:
xhoI; 5' end of cDNA cloned into EcoRI site of pBluescript
3' end of cDNA cloned into xhoI site of pBluescript"
3' end of cDNA cloned into xhoI site of pBluescript
3' end of cDNA cloned into xhoI site of pBluescript
3' end of cDNA cloned into xhoI site of pBluescript
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      XhoI; 5' end of cDNA cloned into EcoRI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript" 93 c 88 g 68 t
                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GI:3771678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        63.0%;
98.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 230; DB 9;
Pred. No. 1.3e-46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Emericella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lai,H.,
                                                                                                                                                                                                                                                             of the cDNA clones
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Martin, W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eurotiomycetes;
                                                                                                                                                                                                                                                                                                                                                                               broe@ou.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          318;
                                                                                                                                                                                                                                                                                                                                              of Oklahoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Aramayo, R.,
                                                                                                                                                                                                                                                             ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST 19-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ٠.
                                                                                                                                                                                                                                                             the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       196
                                                                                                                                                                                                                                                             Fungal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
AA965960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Snoor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
   Query Match
Best Local Similarity
Matches 218; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              41 agaacgcagcgaactgcgataagtaatgtgaattgcagaattcagtgaatcatcgagtct 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aggcagcggcggcaccg-gtccggtcctcgagcgta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ttgaacgcacattgcgccccctggcattccggggggcatgcctgtccgagcgtcattgct 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCCTCAAGCCCGGCTTGTGTGTTGGGTCGTCGT---CCCCCCCGGGGGACGGGCCCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGAACGCACATTGCGCCCCCTGGCATTCCGGGGGGCATGCCTGTCCGAGCGTCATTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGAACGCAGCGAACTGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAGTCT 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               212;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Bruce A. Roe, University of Oklahoma, Department of Chemistry and Biochemistry Advanced Center for Genome Technology, Universi 620 Parrington Oval, Norman, OK 73019, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kupfer, D., Gray, J., Hausner, J., Lai, H., Prade, R. and Roe, B.
An Aspergillus nidulans EST Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AA965960 227 bp mRNA linear EST 31-JUL-1998 r8005a1.rl Aspergillus nidulans 24hr asexual developmental and vegetative cDNA lambda zap library Emericella nidulans cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                          620 Parrington Oval, Norman,
Tel: 405 325 4912
Fax: 405 325 7762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vegetative cDNA lambda zap
r8a05al 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                     High quality sequence stop: 153
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                           Seq
                                                                                                                                                                                                                                                                                                                                                         We anticipate the future release 
Genetics Stock Center
                                                                                                                                                                                                                                                                                                                                                                                          Email: broe@ou.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished (1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Emericella nidulans
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA965960.1 GI:3139844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eurotiales; Trichocomaceae;
1 (bases 1 to 227)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Emericella nidulans.
                                                                                                                                                                                                                                                                                                                                         primer: SK
 Conservative
                                                                                                      40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                             /organism="Emericella nidulans"
/strain="FGSC A26"
/strain="FGSC A26"
/db_xref="taxon:162425"
/clone="r8a05a1"
/clone=lib="Aspergillus nidulans 24hr asexual
developmental and vegetative cDNA lambda zap library"
/tissue_type="vegetative mycella, asexual structures"
/note="Vector: pBlueScript SK-; Site_1: EcoRI; Site_2:
XhoI; 5' end of cDNA cloned into EcoRI site of pBlueScript
XhoI; 5' end of cDNA cloned into EcoRI site of pBlueScript
                                                                                                   end of cDNA cloned into XhoI site of pBluescript* 65\ c 74\ g 48\ t
                   49.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               51.5%;
98.1%;
 <u>,,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                   Pred. No. 4.6e-34;
                                 Score 178.8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 188; DB 9;
Pred. No. 2.5e-36;
 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Emericella
                                                                                                                                                                                                                                                                                                                                                                           of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            255
                                  DB
                                                                                                                                                                                                                                                                                                                                                                           the
                                 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                         University
                                                                                                                                                                                                                                                                                                                                                                           CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Martin, W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 213;
 Indels
                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                           clones
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eurotiomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          broe@ou.edu
                                  227;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           of Oklahoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Aramayo, R.,
                                                                                                                                                                                                                                                                                                                                                                           6
5,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4
                                                                                                                                                                                                                                                                                                                                                                           the
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              94
                                                                                                                                                                                                                                                                                                                                                                         Fungal
ω
--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ŋ
```

```
RESULT
AA783772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ş
 믕
                          Ş
                                                                밁
                                                                                                                                                                                                        BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                         ş
                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KEYWORDS
                                                                                                                                            Query Match
Best Local
                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            178
                                 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 36
                                                              ATTGCTGCCCTCAAGCCCGGCTTGTGTGTTTGGGTCGTCGT----CCCCCCCGGGGGGACGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGAGCTTTCGACGCACATTGCGCCCCCTGGCATTCCGGGGGGCATGCCTGTCCGAGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GATGAAGAACGCAGCGAACTGCGATAAG†AATGTGAATTCGCAGAATTCAGTGAATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gatgaagaacgcagcgaactgcgataagtaatgtgaatt-gcagaattcagtgaatcatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gagtetttgaaegeaeattgegeeeectggeatteeggggggeatgeetgteegagegte 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      An Aspergillus nidulans EST Database
Unpublished (1998)
Contact: Bruce_A. Roe, University of Oklahoma, broe@ou.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA783772
AA783772
c7g08al.rl Aspergillus nidulans 24hr asexual developmental a vegetative cDNA lambda zap library Emericella nidulans cDNA c7g08al.5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Department of Chemistry and Biochemistry Advanced Center for Genome Technology, Ur 620 Parrington Oval, Norman, OK 73019, US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA783772
AA783772.1 GI:2843940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          620 Parrington Oval, Norman,
Tel: 405 325 4912
Fax: 405 325 7762
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: broe@ou.edu
We anticipate the future release
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kupfer, D., Gray, J., Hausner, J., Lai, H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eurotiales; Trichocomaceae; Emericella.
1 (bases 1 to 189)
                                                                                                                                                                                                                                                                                                                                                                                                                                              Genetics Stock Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Prade, R. and Roe, B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Fungi; Ascomycota; Pezizomycotina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Emericella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Emericella nidulans.
                                                                                                                                          Similarity
                                                                                                                             Conservative
                                                                                                                                                                                                                        32
                                                                                                                                                                                                                       /Glone_lib.**Aspergillus nidulans 24hr asexual
developmental and vegetative CDNA landda zap library"
/tissue_type="vegetative mycella, asexual structures"
/note="vector: pBlueScript SK-; Site_1: EcoRI; Site_2:
xhoI; 5' end of cDNA cloned into EcoRI site of pBlueScript
3' end of cDNA cloned into XhoI site of pBluescript
3' end of cDNA cloned into XhoI site of pBluescript
61 c 54 g 41 t l others
                                                                                                                                                                                                                                                                                                                                                 /organism="Emericella nidulans"
/strain="FGSC A26"
/db_xref="taxon:162425"
                                                                                                                                                                                                                                                                                                                                /clone="c7g08a1"
                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
1. .189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nidulans
                                                                                                                                         40.98;
                                                                                                                            0,
                                                                                                                                          Score 149.2; DB 9; Pred. No. 8.4e-27;
                                                                                                                             Mismatches
                                                                                                                          . 8.4e-27;
9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              of the cDNA clones
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Martin, W.,
                                                                                                                                                        Length 189;
                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eurotiomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of Oklahoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ţ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST 29-JUL-1998
                                                                                                                            4,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              the Fungal
                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  clone
                                                                                                                            2
```

```
JOURNAL
MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CNS06XIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                misc_feature
                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         187
                                                                                                                                                                                                                                                                                                                Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage,
2 rue Gaston Cremieux, CP 5706, 91057 EWRY cedex, FRANCE. (E-mail:
5 seqref@genoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen
yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii,
Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia
angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila,
Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to
5 kb were prepared and both extremities were sequenced. See
keywords for description of this sequence and for the sequence of
the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---GTCCTCCTCCCCCCGGGGGACGGGCCCAAAAGGCANCGGCGCACCGTGTCCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gtcgtcgtcccccccccgggggacggggcccgaaaggcagcggcggcaccg-gtccggtc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCGAGCGTAT 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ctcgagcgtat 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            T7 end of clone AYOAAOOIC10 of library AYOAA from strain CBS 6340 of Kluyveromyces thermotolerans, genomic survey sequence.
AL419786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Bolottin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S., de-Montign, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S. Saurin, W., Tekala, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kluyveromyces thermotolerans
Eukaryota; Fungi; Ascomycota; Saccharomycetaes;
Saccharomycetales; Saccharomycetaceae; Kluyveromyces.

1 (bases 1 to 882)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Genomic exploration of the hemiascomycetous yeasts:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and Dujon, B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AL419786.1 GI:12202964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEBS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kluyveromyces thermotolerans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Malpertuy, A., Llorente, B., Blandin, G., Artiguenave, F., Wincker, P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kluyveromyces thermotolerans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (bases 1 to 882)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 882)
                        221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lett. 487 (1), 61-65 (2000)
                  /note="part of rDNA repeats"
/evidence=not_experimental
1 188 c 213 g 257 t
                                                                                             /note="end : <1. .>882
                                                                                                                                                                  /organism="Kluyveromyces
/strain="CBS 6340"
/db_xref="taxon:4916"
/clone="AY0AA001C10"
                                                                                                                                                /clone_lib="AY0AA"
                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                thermotolerans"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GSS 06-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Potier, S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            245
```

Query Match Best Local Similarity

39.4%;

Score 143.8; DB 12; Pred. No. 2.4e-25; Pred. No. 232;

DB 12;

Indels Length

0

Caps

0;

163;

Conservative

```
JOURNAL
MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 6
CNS07ARF/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rocus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TAGTGAGTGGTACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tgttgggtcgtcgtc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAACTTTCAACAACGGATCTCTTGGTTCTCGCATCGATGAAGAACGCAGCGAAATGCGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20584724
2 (bases
                                                                                                                                                                                                        exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                         Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY Cedex - FRANCE (E-mail: seqref@genoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G.,
Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S.,
de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B.,
Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S.,
Saurin, W., Tekala, F., Toffano-Nioche, C., Wesolowski-Louvel, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lepingle,A., Casaregola,S., Neuveglise,C., Bon,E., Nguyen,H., Artiguenave,F., Wincker,P. and Gaillardin,C. Genomic exploration of the hemiascomycetous yeasts: 14. Debaryomyces hansenii var. hansenii FEBS Lett. 487 (1), 82-86 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Debaryomyces hansenii
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Debaryomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CNS07ARF 1117 bp DNA linear GSS 08-JUL-2001 T3 end of clone BC0AA006C06 of library BC0AA from strain CBS 767 of Debaryomyces hansenii, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AL436945
AL436945.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Wincker, P. and Weissenbach, J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genoscope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20584711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Debaryomyces hansenii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 1117)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (bases 1 to 1117)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 1117)
                                                                                                                    /organism="Debaryomyces
/strain="CBS 767"
/note="end : T3"
                        /clone_lib="BCOAA"
                                                /db_xref="taxon:4959"
/clone="BCOAA006C06"
                                                                                         /variety="hansenii"
                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GI:12220358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     195
                                                                                                                                            hansenii"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
```

```
CNS06FTN/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
                                                                                                                                                                                                                                                                        AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                          JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 tgttgggtcgtcgtc 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        570 AAGTAATATGAATTGCAGATTTTCGTGAATCATCGAATCTTTGAACGCACATTGCGCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                630 AAACTTTCAACAACGGATCTCTTGGTTCTCGCATCGATGAAGAACGCAGCGAAATGCGAT 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TATTGAGTGATACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       162;
                                                                                                          submitted (06-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail : seqrefggenoscope.cns.fr - Web : www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces exiguus, Saccharomyces couxii, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
                                                                                                                                                                                                                                                                                                                                                                            Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S., de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S., Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J. Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies
lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              de Montigny,J., Straub,M., Potier,S., Tekaia,F., Dujor Wincker,P., Artiguenave,F. and Souciet,J. Genomic exploration of the hemiascomycetous yeasts: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AL396849
AL396849.1
                                                                                                                                                                                                                                                                      Genoscope.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zygosaccharomyces rouxii
FEBS Lett. 487 (1), 52-55 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetales; Saccharomycetaceae; 2ygosaccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zygosaccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CNS06FTN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Zygosaccharomyces
                                                                                                                                                                                                                                                                                                                                                        FEBS Lett. 487 (1),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20584718
                                                                                                                                                                                                                                                                                                                                          20584711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOGFTN 718 bp DNA linear GSS 17-end of clone XAROAA001B02 of library XAROAA from strain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 718)
                                                                                                                                                                                                                                                                                                                  (bases 1 to 718)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Zygosaccharomyces rouxii, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (bases 1 to 718)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="part of rDNA repeats"
/rovidence=not_experimental
/evidence=not_experimental
a 256 c 204 g 308 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GI:12149257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         39.0%;
83.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rouxii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rouxii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 142.2; DB 1
Pred. No. 6.2e-25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                            (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 1117;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dujon, B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GSS 17-JUN-2001
strain CBS 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
```

```
JOURNAL
MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                       JOURNAL
MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ş
                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rocus
                                                                                                                                                                                     TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ctggcattccggggggcatgcctgtccgagcgtcattgc 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACGTAATGTGAATTGCAGAATTCCGTGAATCATCGAATCTTTGAACGCACATTGCGCCCC 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGGTATTCCGGGGGGCATGCCTGTTTGAGCGTCATTTC 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  827 bp DNA linear GSS 17-JUN-2001
T7 end of clone xAR0AA001H01 of library XAR0AA from strain CBS 732
of Zygosaccharomyces rouxii, genomic survey seguence
AL396965
Submitted (06-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail: seqrefégenoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii,
                                                                                                                                                                                                                                                                                                                                                                                                Wincker, P. and Weissenbach, J.
Genomic exploration of the hemiascomycetous yeasts:
yeast species for molecular evolution studies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Bolotin-Fukuhara, M., Bon, E., Brottier, E., Essaregola, S., de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B., de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S., Saurin, W., Tekala, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Malpertuy, A., Bandala, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Malpertuy, A., 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             de Montigny, J., Straub, M., Potier, S., Tekaia, F., Dujon, B., Mincker, P., Artiguenave, F. and Souciet, J. Genomic exploration of the hemiascomycetous yeasts: 8. 2ygosaccharomyces rouxii FEBS Lett. 487 (1), 52-55 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetales; Saccharomycetaceae; Zygosaccharomyces.

1 (bases 1 to 827)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2ygosaccharomyces roux11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AL396965.1 GI:12149436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the
                                                                                                                                                                                                                          Direct Submission
                                                                                                                                                                                                                                                                                                                                                           FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Zygosaccharomyces rouxii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 827)
                                                                                                                                                                                                                                                                                            (bases 1 to 827)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        other extremity of this insert.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note-"part of rDNA repeats contains 35S rDNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="zygosaccharomyces rouxii"
/strain="CBS 732"
/db_xref="taxon:4956"
/clone="xaR0AA001B02"
/clone_lib="XAR0AA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /evidence=not_experimental
169 c 152 g 192 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <1. .>718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="end : T7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   38.7%;
93.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 141.4; DB 12; Pred. No. 9e-25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 others

    A set of

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
```

```
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
ORIGIN
                                           REFERENCE
                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          οy
                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CNS06FVF/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FOCUS
    AUTHORS
TITLE
                                                                   JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                              JOURNAL
MEDLINE
                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   587 AAACTTTCAACAACGGATCTCTTGGTTCTCGCATCGATGAAGAACGCAGCGAACTGCGAT 528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACGTAATGTGAATTGCAGAATTCCGTGAATCATCGAATCTTTGAACGCACATTGCGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        148;
Genoscope.
Direct Submission
                                                                                                                                             Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S., de-Montign, J., Durjon, B., Durrens, P., Eppingle, A., Llorente, B., delighter, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S., Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J.
                                                                                                                                                                                                                                                                                                                                                  de Montigny, J., Straub, M., Potier, S., Tekaia, F., Dujon, B., Wincker, P., Artiguenave, F. and Souciet, J. Genomic exploration of the hemiascomycetous yeasts: 8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CNS06FVF B66 bp DNA linear GSS 17-
T3 end of clone XAR0AA001E05 of library XAR0AA from strain
of zygosaccharomyces rouxil, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                           Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Zygosaccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or Zygosaccharomyces roux11, AL396913
                                                                                                                                                                                                                                                                                          Zygosaccharomyces rouxii
FEBS Lett. 487 (1), 52-55 (2000)
20584718
                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetales; Saccharomycetaceae; 2ygosaccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AL396913.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zygosaccharomyces rouxii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                        (bases 1 to 866)
                                           (bases 1 to 866)
                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 866)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Zygosaccharomyces rouxii"
/strain="CBS 732"
/db_xref="taxon:4956"
/clone="xAROAA001H01"
/clone_lib="xAROAA"
/note="end : T7"
<1...>827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /evidence=not_experimental
197 c 170 g 223 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="part of rDNA repeats contains 35S rDNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GI:12149350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       38.7%;
93.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rouxii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 141.4; DB 1
Pred. No. 9.3e-25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GSS 17-JUN-2001
strain CBS 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
```

```
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 10
CNS06DGL/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                           JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                845 AAACTTTCAACAACGGATCTCTTGGTTCTCGCATCGATGAAGAACGCAGCGAACTGCGAT 786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         l aaactttcaacaatggatctcttggttccggcatcgatgaaggaacgcagcgaactgcgat 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AL Submitted (06-SEP-2000) Genoscope - Centre National de Sequencage,
2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail:
seqrefégenoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen
yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
exiguus, Saccharomyces servazzi. Zygosaccharomyces rouxii,
Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
lactis var. lactis, Kluyveromyces marxianus var. marxianus, pichia
angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila,
Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to
5 kb were prepared and both extremities were sequenced. See
keywords for description of this sequence and for the sequence of
the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGTAATGTGAATTGCAGAATTCCGTGAATCATCGAATCTTTGAACGCACATTGCGCCCC 726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    148;
Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S., de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S., Saurin, W., Tekala, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J.
                                                                                                                                                                                                                          1 (bases 1 to 869)
de Montigny, J., Straub, M., Potier, S., Tekaia, F., Dujon, B., Wincker, P., Artiguenave, F. and Souciet, J.
Genomic exploration of the hemiascomycetous yeasts: 8.
Zygosaccharomyces rouxii
FEBS Lett. 487 (1), 52-55 (2000)
                                                                                                                                                                                                                                                                                                                                                                Zygosaccharomyces rouxii
Eukaryota; Fungl; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Zygosaccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CNS06DGL 869 bp DNA linear GSS 17-JUN-20U1 T3 end of clone AR0AA013B03 of library AR0AA from strain CBS 732 of Zygosaccharomyces rouxil, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zygosaccharomyces rouxii, genomic AL393787
                                                                                                                                                                                                           20584718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AL393787.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Zygosaccharomyces rouxii.
                                                                                                                                                                              (bases 1 to 869)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="part of rDNA repeats
contains 35s rDNA gene"
/evidence=not_experimental
a 230 c 166 g 244 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   <1. .>866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone_lib="XAR0AA"
/note="end : T3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /db_xref="taxon:4956"
/clone="xaR0AA001E05"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Zygosaccharomyces rouxii"
/strain="CBS 732"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GI:12144287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         38.7%;
93.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 141.4; DB 1
Pred. No. 9.3e-25;
0; Mismatches 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  244 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 866;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
```

```
RESULT 11
CNS06DHH/c
LOCUS
                                                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
MEDLINE
REFERENCE
                                REFERENCE
                                                                                                                                                                                                                                                                SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                             KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
TITLE
                                                                                                                        TITLE
    AUTHORS
                                                   MEDLINE
                                                                          JOURNAL
                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 ctggcattccggggggcatgcctgtccgagcgtcattgc 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   588 ACGTAATGTGAATTGCAGAATTCCGTGAATCATCGAATCTTTGAACGCACATTGCGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            648 AAACTITCAACAACGGATCTCTTGGTTCTCGCATCGATGAAGAACGCAGCGAACTGCGAT 589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           528 TTGGTATTCCGGGGGGCATGCCTGTTTGAGCGTCATTTC 490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                            de Montigny,J., Straub,M., Potier,S., Tekaia,F., Dujon,B., Wincker,P., Artiguenave,F. and Souciet,J. Genomic exploration of the hemiascomycetous yeasts: 8.
                                                                                                                                                                                 Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetales; Saccharomycetaceae; 2ygosaccharomyces.

1 (bases 1 to 889)
                                                                                                                                                                                                                                                                                                                                                         CNSOGDHH 889 bp DNA linear GSS 17-Ju T3 end of clone AROAA013D02 of library AROAA from strain CBS Zygosaccharomyces rouxii, genomic survey sequence. AL393819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             angusta, Debaryomyces hansenii var. marxianus, Pichia Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See Keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 rue Gaston Cremieux CP 5706, 91057 EVRY cedex, FRANCE. (E-mail: segref@genoscope.cns.fr web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen
yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
xiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii,
Saccharomyces servazzii, Zygosaccharomyces rouxii,
Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia
                                                   20584718
                                                                     Zygosaccharomyces rouxii
FEBS Lett. 487 (1), 52-55
                                                                                                                                                                                                                                                           Zygosaccharomyces
                                                                                                                                                                                                                                                                                 Zygosaccharomyces rouxii.
                                                                                                                                                                                                                                                                                                                                   AL393819.1 GI:12144343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         yeast species for molecular evolution studies FEBS Lett. 487 (1), 3-12 (2000) 20584711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (06-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Direct Submission
                        (bases 1 to 889)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (bases 1 to 869)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="part of rDNA repeats
contains 35s rDNA gene"
/evidence=not_experimental
10 216 c 185 g 226 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Zygosaccharomyces rouxii"
/strain="CBS 732"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="end : T3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone_lib-"AROAA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /db_xref="taxon:4956"
/clone="aR0AA013B03"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . 869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   33.7%;
93.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .>869
Aigle, M., Artiguenave, F., Blandin, G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 141.4; DB 12;
Pred. No. 9.4e-25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                          (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         869;
                                                                                                                                                                                                                                                                                                                                                                                                GSS 17-JUN-2001
Crain CBS 732 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
```

```
JOURNAL
MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                   CNS06CUX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                            ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                               RESULT 12
                                                                                                                                             SOURCE
                                                                                                                                                                       KEYWORDS
                                                                                                                                                                                                 VERSION
                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                       AUTHORS
                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_teature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                            528
                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 ctggcattccggggggcatgcctgtccgagcgtcattgc 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         588 ACGTAATGTGAATTGCAGAATTCCGTGAATCATCGAATCTTTGAACGCACATTGCGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           648 AAACTTTCAACAACGGATCTCTTGGTTCTCGCATCGATGAAGAACGCAGCGAACTGCGAT 589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 aaactttcaacaatggatctctttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AL Submitted (06 SEP-2000) Genoscope - Centre National de Sequencage,
2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail:
3 segref@genoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen
yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
exiguus, Saccharomyces servazzii, 29gosaccharomyces rouxii,
Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia
angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila,
Candida tropicalis and Yarrowla lipolytica. Genomic inserts of 3 to
5 kb were prepared and both extremities were sequenced. See
keywords for description of this sequence and for the sequence of
the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                            TTGGTATTCCGGGGGGCATGCCTGTTTGAGCGTCATTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bolotin-Fukuhara,M., Bon,E., Brottler,P., Casaregola,S., de-Montigny,J., Dujon,B., Durrens,P., Lepiple,A., Llorente,B., Malpertuy,A., Neuveglise,C., Ozier-Kalogeropoulos,O., Potier,S., Saurin,W., Tekala,F., Toffano-Nioche,C., Wesolowski-Louvel,M., Wincker,P. and Weissenbach,J.

Wincker,P. and Weissenbach,J.
Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies
FEBS Lett. 487 (1), 3-12 (2000)
1 (bases 1 to 902)
de Montigny, J., Straub, M., Potier, S., Tekaia, F., Dujon, B.,
Wincker, P., Artiguenave, F. and Souciet, J.
                                                                   Zygosaccharomyces rouxil
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Zygosaccharomyces.
                                                                                                                                                                          GSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Genoscope
                                                                                                                                                                                                 AL393007.1 GI:12142879
                                                                                                                                                                                                                                               Zygosaccharomyces rouxii, genomic survey sequence.
                                                                                                                                                                                                                                                                         CNSO6CUX 902 bp DNA linear GSS 14-JUN-20
T7 end of clone AR0AA008C01 of library AR0AA from strain CBS 732
                                                                                                                                             Zygosaccharomyces rouxii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20584711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 889)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="zygosaccharomyces rouxii"
/strain="cBS 732"
/db_xref="taxon:4956"
/clone="AROAA013D02"
/clone="AROAA013D02"
/clone_lib="AROAA"
/note="mend : T3"
/note="mend : T3"
/1 >889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /evidence=not_experimental
222 c 186 g 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="part of rDNA repeats contains 35S rDNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    38.7%;
93.1%;
                                                                                                                      rouxii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 141.4;
Pred. No. 9.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .4e-25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                               490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 889;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
```

```
JOURNAL
MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
MEDLINE
REFERENCE
                                                                                                                                                       RESULT 13
CNS06FU6
                                           ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                         KEYWORDS
                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
                                                                                                                                    cus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                346
                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                     286
                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                            1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                                                                                                                                                                                    ctggcattccggggggcatgcctgtccgagcgtcattgc 159
                                                                                                                                                                                                                                                                                                                                                       aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                TTGGTATTCCGGGGGGCATGCCTGTTTGAGCGTCATTTC
                                                                                                                                                                                                                                                                                                                                  ACGTAATGTGAATTGCAGAATTCCGTGAATCATCGAATCTTTGAACGCACATTGCGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Genomic exploration of the hemiascomycetous yeasts: 8.

2ygosaccharomyces rouxii

FEBS Lett. 487 (1), 52-55 (2000)

20584718

2 (bases 1 to 902)
                                                                                CNS06FU6 928 bp DNA linear GSS 17-
T7 end of clone XAR0AA001C01 of library XAR0AA from strain
of Zygosaccharomyces rouxii, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (06-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY Cedex, FRANCE. (E-mail: seqrefigenoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bolotin-Fukuhara,M., Bon,E., Brottler,P., Casaregola,S., de-Montigny,J., Dujon,B., Durrens,P., Lepingle,A., Llorente,B., Malpertuy,A., Neuveglise,C., Ozier-Kalogeropoulos,O., Potier,S., Saurin,W., Tekala,F., Toffano-Nioche,C., Wesolowski-Louvel,M., Wincker,P. and Weissenbach,J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies
                                           AL396868
AL396868.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20584711
  Zygosaccharomyces rouxii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (bases 1 to 902)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (bases 1 to 902)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 236 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /db_xref="taxon:4956"
/clone="AROAAOO8CO1"
/clone_lib="AROAA"
/note="end : T7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="part of rDNA repeats
contains 35S rDNA gene"
/evidence=not_experimental
a 191 c 220 g 254 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Zygosaccharomyces rouxii"
/strain="CBS 732"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1. .902
                                             GI:12149277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   38.7%;
93.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 141.4; DB 1
Pred. No. 9.4e-25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 902;
                                                                                                             GSS 17-JUN-2001
strain CBS 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                       345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
```

```
JOURNAL
MEDLINE
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE
REFERENCE
                RESULT 14
CNS06CB4/c
                                                                                                                              ş
                                                                                                                                                                       ₽
                                                                                                                                                                                                         ş
                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                           BASE COUNT
ORIGIN
                                                                                             B
                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                           272 TTGGTATTCCGGGGGGCATGCCTGTTTGAGCGTCATTTC 310
                                                                                                                                  121
                                                                                                                                                                         212
                                                                                                                                                                                                                                                    152 AAACTTTCAACAACGGATCTCTTGGTTCTCGCATCGATGAAGAACGCAGCGAACTGCGAT 211
                                                                                                                                                                                                                                                                                                                             Local Similarity nes 148; Conserv
                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                      1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                                              ctggcattccggggggcatgcctgtccgagcgtcattgc 159
                                                                                                                                                                           ACGTAATGTGAATTGCAGAATTCCGTGAATCATCGAATCTTTGAACGCACATTGCGCCCC
                                                                                                                                                                                           aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20584718
2 (base:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (06-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE: (E-mail: segref@genoscope.cns.fr) Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S., de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S., Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J.
  CNS06CB4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Genoscope.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           de Montigny, J., Straub, M., Potler, S., Tekaia, F., Dujon Wincker, P., Artiguenave, F. and Souciet, J. Genomic exploration of the hemiascomycetous yeasts: 8. Zygosaccharomyces rouxii FEBS Lett. 487 (1), 52-55 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Zygosaccharomyces rouxii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Saccharomycetales; Saccharomycetaceae; Zygosaccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20584711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (bases 1 to 928)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (bases 1 to 928)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 928)
                                                                                                                                                                                                                                                                                                                                                                                                                                               251
                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="zygosaccharomyces rouxil"
/strain="CBS 732"
/db_xref="taxon:4956"
/clone="xAROAA01CO1"
/clone_lib="XAROAA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="end : T7"
<1. .>928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="part of rDNA repeats contains 35s rDNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                             /evidence=not_experimental
187 c 230 g 258
                                                                                                                                                                                                                                                                                                                                                38.7%;
                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                             Score 141.4; DB 1
Pred. No. 9.5e-25;
0; Mismatches 11
þp
                                                                                                                                                                                                                                                                                                                                                                                                                                               4
  DNA
                                                                                                                                                                                                                                                                                                                                                                DB 12; Length 928;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tekaia, F., Dujon, B.,
                                                                                                                                                                                                                                                                                                                               11;
                                                                                                                                                                                                                                                                                                                               Indels
  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                               others
  GSS 14-JUN-2001
                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                           271
                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
ORGANISM
                Ş
                                                         밁
                                                                                           Ş
                                                                                                                                  В
                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                               ORIGIN
                                                                                                                                                                                                                                                                                                                             BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
MEDLINE
                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                         589
                                                                                             61
                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20584718
2 (bases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20584711
                                                                                                                                                                                                                                                                                                                               266
```

```
DEFINITION
121 ctggcattccggggggcatgcctgtccgagcgtcattgc 159
                                                                                                                                                                                                         649 AAACTTTCAACAACGGATCTCTTGGTTCTCGCATCGATGAAGAACGCGAACTGCGAT 590
                                                                                                                                                                                                                                                                        1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                     148; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bolotin-Fukuhara,M., Bon,E., Brottier,P., Casaregola,S., de-Montigny,J., Dujon,B., Durrens,P., Lepingle,A., Llorente,B., Malpertuy,A., Neuveglise,C., Ozler-Kalogeropoulos,O., Potier,S., Saurin,W., Tekaia,F., Toffano-Nioche,C., Wesolowski-Louvel,M., Wincker,P. and Weissenbach,J. Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Varrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (06-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail: seqref@enoscope.cns.fr)
Seqref@enoscope.cns.fr Web: "www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces exiguus Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              de Montigny, J., Straub, M., Potier, S., Tekaia, F., Dujon, B., Wincker, P., Artiguenave, F. and Souciet, J. Genomic exploration of the hemiascomycetous yeasts: 8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetaceae; Zygosaccharomyces.

1 (bases 1 to 936)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Zygosaccharomyces rouxii, genomic survey sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               T3 end of clone AROAAOO3E10 of library AROAA from strain CBS 732 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genoscope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Zygosaccharomyces rouxii
FEBS Lett. 487 (1), 52-55 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Zygosaccharomyces rouxii.
Zygosaccharomyces rouxii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AL392294.1 GI:12141507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (bases 1 to 936)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (bases 1 to 936)
                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /evidence=not_experimental
227 c 188 g 245 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                contains 35S rDNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="end : T3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /db_xref="taxon:4956"
/clone="AROAA003E10"
/clone_lib="AROAA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="part of rDNA repeats
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <1. .>936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Zygosaccharomyces rouxii"
/strain="CBS 732"
                                                                                                                                                                                                                                                                                                                                                                    38.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rouxii
                                                                                                                                                                                                                                                                                                                                                                Score 141.4; DB
Pred. No. 9.5e-2
                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                    .5e-25;
                                                                                                                                                                                                                                                                                                                                       11;
                                                                                                                                                                                                                                                                                                                                                                                             12; Length 936;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10
                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     others
                                                                                                                                                                                                                                                                                                                                       0,
                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                          0
```

믕

529

TTGGTATTCCGGGGGGCATGCCTGTTTGAGCGTCATTTC 491

```
JOURNAL
MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
MEDLINE
REFERENCE
       밁
                                                                                                                                                                                                            BASE COUNT
ORIGIN
                                          ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                            Query Match
Best Local S
Matches 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
Local Similarity hes 148; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (06-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail: seqrefégenoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveromyces thermotolerans, Kluyveromyces lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Souciet, J.L., Aiglé, M., Artiguenave, F., Blandin, G.,
Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S.,
de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B.,
Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S.,
Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M.,
Wlicker, P. and Weissenbach, J.
Genomic exploration of the hemiascomycetous yeasts: 1. A set of
yeast species for molecular evolution studies
FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       T7 end of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20584718
2 (bases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        de Montigny, J., Straub, M., Potier, S., Tekaia, F., Dujon, B.,
Wincker, P., Artiguenave, F. and Souciet, J.
Genomic exploration of the hemiascomycetous yeasts: 8.
Zygosaccharomyces rouxii
FEBS Lett. 487 (1), 52-55 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zygosaccharomyces rouxii. Zygosaccharomyces rouxii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of Zygosaccharomyces rouxii, genomic survey sequence. AL396981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20584711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Saccharomycetales; Saccharomycetaceae; 1 (bases 1 to 960)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetales; Saccharomycetaceae; Zygosaccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AL396981.1 GI:12149473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 960)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 960)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S06FXB 11-JUN-2001
end of clone XAR0AA001H11 of library XAR0AA from strain CBS 732
                                                                                                                                                                                                                                    254
                                                                                               Conservative
                                                                                                                                                                                                                                    ۵
                                                                                                                                                                                                                                 /evidence=not_experimental
198 c 237 g 270 t
                                                                                                                                                                                                                                                                          /note="part of rDNA repeats contains 35S rDNA gene"
                                                                                                                                                                                                                                                                                                                         /note="end : T7" <1. .>960
                                                                                                                                                                                                                                                                                                                                                                  /organism="Zygosaccharomyces rouxii"
/strain="CBS 732"
/db_xref="taxon:4956"
/clone="XAR0AA001H11"
/clone_lib="XAR0AA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                  38.7%;
                                                                                               0
                                                                                          Score 141.4; DB 1
Pred. No. 9.5e-25;
0; Mismatches 11
                                                                                                                                       DB 12;
                                                                                            11;
                                                                                            Indels
                                                                                                                                                                                                                                 others
                                                                                                                                       Length
                                                                                                                                       960;
                                                                                          0;
                                                                                       Gaps
                                                                                          0
```

```
ρ
    밁
      Š
282
      61
```

Search completed: August 21. 2002, 21:32:05 Job time: 12504 sec

Вb

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OM nucleic -
         11
12
13
14
15
16
16
17
18
19
22
23
23
24
25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score
       220.6
206.8
203.8
203.8
1188.4
1188.6
1180.6
1180.2
1171.8
1171.8
1171.9
1170.8
1170.8
1170.8
1170.8
1170.8
1170.8
1170.8
1170.8
1170.8
1170.8
1170.8
1170.8
1170.8
1170.8
1170.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Issued_Patents_NA:*

1: /cgn2_6/ptodata/1/ina/5A_COMB.seq:*

2: /cgn2_6/ptodata/1/ina/5B_COMB.seq:*

3: /cgn2_6/ptodata/1/ina/6B_COMB.seq:*

4: /cgn2_6/ptodata/1/ina/FCTUS_COMB.seq:*

5: /cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
     Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               383533 seqs, 122816752 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-046-955-5
365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          August 21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aaactttcaacaatggatct.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
     2002, 20:37:27 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GenCore version 4.5 (c) 1993 - 2000 Comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB
                US-09-037-9908-7
US-08-986-727-4
US-08-986-727-5
US-08-986-727-3
US-08-968-52-127C-1
US-08-652-127C-1
US-08-652-127C-1
US-08-652-127C-1
US-08-652-127C-1
US-08-652-127C-1
US-08-652-127C-1
US-08-652-127C-1
US-08-652-127C-1
US-08-652-127C-6
US-09-026-601-38
US-09-026-601-39
US-09-026-601-39
US-09-026-601-30
US-09-026-601-30
US-09-026-601-30
US-09-026-601-31
US-08-722-187-85
US-09-026-601-31
US-08-742-023-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Search time 138.45 Seconds (without alignments) 647.571 Million cell upday
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Compugen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .gggatacccgctgaacttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              767066
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cell updates/sec
                                                   7, Appli
4, Appli
5, Appli
3, Appli
3, Appli
3, Appli
4, Appli
7, Appli
6, Appli
6, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
2, Appli
3, Appli
4, Appli
4, Appli
4, Appli
5, Appli
5, Appli
5, Appli
6, Appli
6, Appli
6, Appli
8, Appli
8,
```

RESULT 1 US-09-037-990B-7 IS-09-037-990B-7 IS-09-037-990B	6 45.4 556 1 US-08-887-480-85 Sequence 85, 4 45.3 526 1 US-08-905-314A-23 Sequence 23, 4 45.3 526 1 US-08-233-608-3 Sequence 23, 4 45.3 526 1 US-08-887-480-3 Sequence 3, 4 45.3 526 2 US-08-887-480-3 Sequence 3, 4 45.3 526 2 US-08-872-187-3 Sequence 3, 4 45.3 526 2 US-08-635-747-38 Sequence 3, 5 45.3 526 5 PCT-US95-04712-3 Sequence 3, 5 45.2 546 1 US-08-887-480-96 Sequence 2, 5 45.2 546 1 US-08-905-314A-22 Sequence 2, 5 45.2 546 1 US-08-905-314A-22 Sequence 2, 5 45.2 546 1 US-08-93-608-5 Sequence 2, 5 545.2 546 1 US-08-93-608-5 Sequence	166.4 45.6 588 1 US-08-742-023-4 166.4 45.6 588 3 US-08-968-505-4 166.4 45.6 598 1 US-08-652-127C-5 165.8 45.4 548 1 US-08-233-608-1 165.8 45.4 548 1 US-08-233-608-1 165.8 45.4 548 2 US-08-887-480-1 165.8 45.4 548 2 US-08-722-187-1 165.8 45.4 548 5 PCT-US9-5-04712-1
--	---	--

Appl

Length 556

w ۲۰

```
RESULT 2
US-09-037-990B-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 6, Application US/09037990B Patent No. 6248519 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 70.1
Best Local Similarity 88.5
Matches 324; Conservative
INFORMATION
                                                                                                                                                           CITY: Chicago

STATE: Illinois

COUNTRY: United States of America

ZIP: 6060-6402

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION NUMBER: US/09/037,990B

FILING DATE: 11-Mar-1999

CLASSIFICATION: CUnknown>

PRIOR APPLICATION DATA:

APPLICATION DATA:

PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   529 ACTTAA 534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360 acttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                                      APPLICATION NUMBER: <Unknown>
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
                                         REFERENCE/DOCKET NUMBER: 29520/30001
TELECOMMUNICATION INFORMATION:
TELEPHONE: 312/474-6300
                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
ADDRESSEE: Marshall, O'Toole,
STREET: 6300 Sears Tower, 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: ENGEL, Stacia R.
DESCENZO, Richard A.
                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTTGGGCCCCGTCCTCCGATTCCGGGGGGGACGGGCCCGAAAGGCAGCGGCGCGCACCGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tgttgggtcgtcgtccccccccgggggacgggcccgaaaggcagcggcggcaccg-gt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGGTATTCCGGGGGGCATGCCTGTCCGAGCGTCATTGCTGCCCTCAAGCCCGGCTTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGTAATGTGAATTGCA-AATTCAGTGAATCATCGAGTCTTTGAACGCACATTGCGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAACTTTCAACAACGGATCTCTTGGTTCCGGCATCGATGAAGAACGCAGCGAAATGCGAT 234
                                                                                      NAME: Sharp, Jeffrey S. REGISTRATION NUMBER: 31,879
                            TELEFAX: 312/474-0448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OF INVENTION:
           <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MORENZONI, Richard A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IRELAN, Nancy A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 70.1%;
88.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          MICROORGANISMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DETECTION OF FERMENTATION-RELATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 256; DB 4;
Pred. No. 4.3e-68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                           Gerstein, Murray &
South Wacker Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                35;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4
```

```
TYPE: nucleic acid

TYPE: nucleic acid

TRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: DNA (genomic)

SEQUENCE DESCRIPTION: SEQ ID NO:

US-09-037-990B-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 3
US-08-986-727-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
        TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 836-6620
TELEPAX: (703) 836-2021
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 611 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 4,
                                                                                                                                                                                              COMPUTER REALABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Ve
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/986,727
FILING DATE: 08-DEC-1997
CLASSIFICATION: 435
ATTOONEY ACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 268; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: ENGEL, Stacia R.
APPLICANT: DESCENZO, Richard A.
APPLICANT: IRELAN, Nancy A.
                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: Ekstrom, Richard C
                                                                                                                                                                                                                                                                                                                                                                                 STREET: P.O. BOX CITY: Alexandria STATE: Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: DETECTION OF FUNGAL PATHOGENS
                                                                                                                               NAME: Ekstrom, Richard C.
REGISTRATION NUMBER: 37,027
REFERENCE/DOCKET NUMBER: 00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                      COUNTRY: United States ZIP: 22313-1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               236 ACGTAATGTGAATTGCA-AATTCAGTGAATCATCGAGTCTTTGAACGCACATTGCGCCCC 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: nuclei
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGGTATTCCGGGGGGCATGCCTGTCCGAGCGTCATTGCTGCCCTCAAGCCCGGCTTGTG 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGTTGGGCCCCGTCCCCCGATCTCCGGGGGGGACGGGCCGAAAGGCAGCGGCGGCACCGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tgttgggtcgtcgtcccc-cccccgggggacgggcccgaaaggcagcggcggcaccg-g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  , Application Us/08986727
6080543
                                                                                                                                                                                                                                                                                                                                                                                                                         E: BURNS, DOANE, SWECKER & MATHIS, L.L.P. P.O. Box 1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IRELAN, Nancy A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                          ОВ-DEC-1997
N. 12-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60.4%;
90.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 220.6; DB 4;
Pred. No. 1.9e-57;
0; Mismatches 24;
                                                                                                                                                                                                                                                                Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 498;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                238
```

Ņ

```
á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; TOPOLOGY: linear; MOLECULE TYPE: DNA US-08-986-727-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-986-727-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                           STREET: P.O. Box 1404
CITY: Alexandria
STATE: Virginia
COUNTRY: United States
ZIP: 22313-1404
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1
CURRENT APPLICATION DATA:
ADDITORATION MINGRED: 115/18/4945 727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 5, Application US/08986727 Patent No. 6080543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
TELEFAX: (703) 836-2021
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                        NAME: Ekstrom, Richard C.
REGISTRATION NUMBER: 37,027
REFERENCE/DOCKET NUMBER: 009773-012
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 836-6620
                                                                                                                     APPLICATION NUMBER: US/01
FILING DATE: 08-DEC-1997
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: DESCENZO, Richard A.
APPLICANT: IRELAN, Nancy A.
TITLE OF INVENTION: DETECTION OF FUNGAL PATHOGENS
                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360 acttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        292
                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99c9tctccaaccttatctt-tctcaggttgacctcggatcaggtagggatacccgctga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----CCAGGACCCCGAGCGCAGTAGTTAAACCCTCGCTCCGGGAGGCCCTGGCGGTGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTTAA 590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGGTATTCCGGAGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCCTGGCTTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCCGTTAAACCCCCAACTTCTGAAAGTTTGACCTCGGATCAGGTAGGAATACCCGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACATTGCGCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAACTTTCAACAACGGATCTCTTGGTTCTGGCATCGATGAAGAACGCAGCGAAATGCGAT 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            281;
                                                                                                                                                                                                                                                                                                                                         P.O. Box 1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ENGEL, Stacia R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           56.7%;
76.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (genomic)
                                                                                                                                                                                                                                                                                                                                                                                      38
                                                                                                                                                                    US/08/986,727
                                                                                                                                                                                                                                                                                                                                                         SWECKER & MATHIS, L.L.P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 206.8;
Pred. No. 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8; DB 3;
2.9e-53;
hes 77;
                                                                                                                                                                                                   #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 611;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2
```

```
Sequence 3, Application US/08986727
Patent No. 6080543
GENERAL INFORMATION:
APPLICANT: ENGEL, Stacia R.
APPLICANT: DESCENZO, Richard A.
APPLICANT: IRELAN, Nancy A.
APPLICANT: IRELAN, Nancy A.
ITILE OF INVENTION: DETECTION OF
NUMBER OF SEQUENCES: 38
CORRESPONDENCE ADDRESS:
ADDRESSEE: BURNS, DOANE, SWECKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: DNA (ger
US-08-986-727-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-986-727-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/986,727
FILING DATE: 08-DEC-1997
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Ekstrom, Richard C.
REGISTRATION NUMBER: 37,027
REGISTRATION NUMBER: 37,027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 279; Conserv
REFERENCE/DOCKET NUMBER: 37,027
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 836-667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   542 CTTAA 546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361 cttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      251 AAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACATTGCGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        191 AAACTTTCAACAACGGATCTCTTGGTTCTGGCATCGATGAAGAACGCAGCGAAATGCGAT 250
                                                                                                                                                                                                                                                                                                   STREET: P.O. Box
CITY: Alexandria
STATE: Virginia
                                                                                                                                                                                                                                                               COUNTRY: United States ZIP: 22313-1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          l aaactttcaacaatggatctcttggttccggcatcgatgaaggaacgcagcgaactgcgat 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAACCTTCTGAACTTTTCT---CAAGGTTGACCTCGGATCAGGTAGGGATACCCGCTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggataccgctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----GAATTGGGCACCGTCCTCACTGCGGACGCGCCTCGAAGACCTCGGCGGTGGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tgttgggtcgtcgtccccccccggggggacgggcccgaaaggcagcggcggcaccggtc 240
                                                                                                                                                                                                                                                                                                 Virginia
                                                                                                                                                                                                                                                                                                                                   P.O. Box 1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     568 base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                DETECTION OF FUNGAL PATHOGENS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55.8%;
76.4%;
                                       009773-012
                                                                                                                                                                                                                                                                                                                                                 SWECKER & MATHIS, L.L.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 203.8; DB 3; Pred. No. 2.2e-52; 0; Mismatches 77;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              568;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    424
```

```
US-09-026-601-41
                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                         Ъ
                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                             Ъ
                                                                                                                                                                                                                                                                                                                                                                   δÔ
                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-905-314A-24
                                                                                                                                         Sequence 41, Application US/09026601 Patent No. 6358680 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 49.4%;
Best Local Similarity 71.8%;
Matches 265; Conservative
                                                                          TITLE OF INVENTION: Detection TITLE OF INVENTION: Pathogens NUMBER OF SEQUENCES: 41 CORRESPONDENCE ADDRESS:
                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
COUNTRY: US
ZIP: 27709
                                                                                                                                                                                                                                       533
                                                                                                                                                                                                                                                                  357
                                                                                                                                                                                                                                                                                            473
                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                               177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                     297
                                                                                                                                                                                                                                                                                                                                                                          237
                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: No. 6358680artis Corporation STREET: 3054 Cornwallis Road CITY: Research Triangle Park STATE: No. 6358680th Carolina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: misc_feature LOCATION: 31..181
OTHER INFORMATION: /not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCATION: 505..561
OTHER INFORMATION: /note= "5'
OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: misc_fe
LOCATION: 1..30
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: misc_ feature LOCATION: 505..561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc_feature LOCATION: 339..504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION: /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: misc_ feature LOCATION: 182..338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       agccggcgtctccaaccttatcttctccaggttgacctcggatcaggtagggatacccgc
                                                                                                                                                                                                                                                               tgaacttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGTATTCCGGCGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCCCCCGGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagccc----ggct 176
                                                                                                                                                                                                                                       TGAACTTAA
                                                                                                                                                                                                                                                                                         GGCCATGCCGTAAAACCCCCAACTTCTGAATGTTGACCTCGGATCAGGTAGGAATACCCGC
                                                                                                                                                                                                                                                                                                                                             G-----CTGCAGCCTCCATTGCGTAGTAGCTAACACCTCGCAACTGGAACGCGGCGC
                                                                                                                                                                                                                                                                                                                                                                    ggtccggtcctcgagcgtatggggcttggtcacccgctcgattagggccgggccgggcgcc
                                                                                                                                                                                                                                                                                                                                                                                                 GGTGTTGGGGATCGGCTCTGCCTTMYGGCGGTGCCGCCCCCGAAATACATTGGCGGTCTC
             USA
                                                                                                                                 Beck, James J
                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= "3'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 180.2; DB 1; Pred. No. 2.8e-45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "5.8S rRNA gene"
                                                                                                   of Wheat and Barley Fungal
Using the Polymerase Chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        end of large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   end of small subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 561;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                      Reaction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                         532
                                                                                                                                                                                                                                                                                                                 356
                                                                                                                                                                                                                                                                                                                                             472
                                                                                                                                                                                                                                                                                                                                                                      296
                                                                                                                                                                                                                                                                                                                                                                                                                          236
                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2
```

```
; NAME/KEY: misc_feature
; LOCATION: 537..590
OTHER INFORMATION: /note= "5';
OTHER INFORMATION: rRNA gene"
US-09-026-601-41
                                                         Вb
                                                                                      δÃ
    밁
                           Q
                                                                                                                    ₽
                                                                                                                                              Ş
                                                                                                                                                                               밁
                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                       Best Local Similarity Matches 258; Conserv
                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: 919-541-8689
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: 919-541-8587
                                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
    389
                               182
                                                            330
                                                                                        122
                                                                                                                      270
                                                                                                                                                                               210
                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY:
LOCATION:
                                                                                                                               62 agtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgccccc 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: misc_feature LOCATION: 210..366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Pyrenophora teres INDIVIDUAL ISOLATE: 36570
                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER:
                                                                                                                                                                                        2 aactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgata
GTTGGGCGTCTTTTGTCTCTCCCCCGAGACTCGCCTTAAAAACATTGGCAGCCGGCCTAC
               9tt999tc9tc9cccccccccg9999acg9gcccgaaaggcagcggcaccggtcc 241
                                                   TGGTATTCCAAAGGGATGCCTGTTCGAGCGTCATTTGTACCCTCAAGCTTTGCTTG-GT
                                                                       tggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtgt 181
                                                                                                                 AGTAGTGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACATTGCGCCCTT 329
                                                                                                                                                                          AACTTTCAACAACGGATCTCTTGGTTCTGGCATCGATGAAGAACGCAGCGAAATGCGATA 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10-1
                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
31..209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
1..30
                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
367..536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              single
                                                                                                                                                                                                                                                47.88; 70.98;
                                                                                                                                                                                                                                                                                                                                                                                                     /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "3'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US/09/026,601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               38,241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         41:
                                                                                                                                                                                                                                    Score 174.4; DB 4;
Pred. No. 1.6e-43;
1; Mismatches 102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                               "5.8S rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1984
                                                                                                                                                                                                                                                                                                                                          end of large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 end of small subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                               gene"
                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                 590;
                                                                                                                                                                                                                                    w
--
                                                                                                                                                                                                                                  Gaps
448
                                                         388
                                                                                                                                                                                                      61
```

2

```
US-08-652-127C-7
(Sequence 7, Application US/08652127C
Patent No. 5792611
GREEAL INFORMATION:
                                                                                      ô
                                                                                                                       В
                                                                                                                                                    Ş
                                                                                                                                                                                     Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ó
                        ş
                                                           밁
                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                 ; TOPOLOGY: linear US-08-652-127C-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/08/652,127C
FILING DATE: May 23, 1996
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: George A. Seaby
REGISTRATION NUMBER: 24,034
REFERENCE/DOCKET NUMBER: 1898
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 232-5815
TELEFAX: (613) 232-5811
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2IP: KIK W.,
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette
MEDIUM TYPE: 15M PC Compatible
COMPUTER: IBM PC COMPATIBLE
COMPUTER: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: DETECTION OF PLANT TITLE OF INVENTION: PATHOGEN FUNGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                           212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       177 tgtgtgttgggtcgtcgtcccccccccggggggacgggcccgaaaggcagcggcacc 236
                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           567 TTAA 570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           507 GAAGCCTTTTTTTTTTTTCAGCCTTTTGACTCTCGGATCAGGTAGGGATACCCGCTGAAC 566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OPERATING SYSTEM:
SOFTWARE: ASCII
                                                                                                                                          61 aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                             TYPE: nucleic acid
STRANDEDNESS: doub
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE: George A. Seaby ADDRESSEE: Seaby & MacLean
                                                                                                                                                                                                                                                                                                                                                                                                LENGTH:
                                                                            ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagccc----ggct 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gcgtctccaaccttatcttctcaggttgacctcggatcaggtagggatacccgctgaac
GGTGTTGGAGATNGGCGTGCCCCCCGGGGCGCCCCCCCCTAAATATAGTGGCGGTCTC
                                                                                                                         AAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACATTGCGCCCG 271
                                                                                                                                                                                                                                                    al Similarity
267; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    K1R 6K7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ottawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 880 Wellington Street, Suite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Canada
                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Richard C. Hamelin
                                                                                                                                                                                                                                                                                                                                                                 double
                                                                                                                                                                                                                                                                   47.1%; Score 171.8; DB 1; 72.4%; Pred. No. 9.4e-43;
                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                        ; 68
                                                                                                                                                                                                                                                                                  Length 531;
                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                      13;
                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                           331
                                                                                                                                                                                                                                                      ω
```

```
οy
                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 11
US-08-652-127C-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                    Ş
                                                        밁
                                                                                                                            DЬ
                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: 08-652-127C-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 8, Application US/08652127C Patent No. 5792611
                                                                                                                                                                                                                                                                         Matches 266;
                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Richar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (613) 232-5831 INFORMATION FOR SEQ ID NO: 8:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: KIR 6K7
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: 18
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 232-5815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/08/652,127C
FILING DATE: May 23, 1996
CLASSIFICATION: 435
ATTORNEY_AGENT INFORMATION:
NAME: George A. Seaby
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 10 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           237
179 tgtgttgggtcgtcgtcccccccccggggggacgggcccgaaaggcagcggcggcaccgg 238
                                                                                                                              266
                                                                                                                                                                                                   206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            503 TGAACTTAA 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              357 tgaacttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    444 - CACGCCGTTAAACCCCCCCACTTCTGAAAGGTTGACCTCGGATCAGGTAGGAATACCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         392 G------CTGTAGCTTCCTCCTGCGTAGTAGCACCTCGCACTGGAAAACAGCGCGGC 443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 880 w
CITY: Ottawa
                                                                                                                                               61 aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: George A. Seaby REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE: George A. Seaby ADDRESSEE: Seaby & MacLean
                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS:
                                                                                                                                                                                                                    1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      agccggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgc
                                                                       ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaag--cccggcttg 178
                                                                                                                                                                                                   AAACTTTCAACAACGGATCTCTTGGTTCTGGCATCGATGAAGAACGCAGCGAAATGCGAT 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCCCCCGGGCTT 385
                                                                                                                            AAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACATTGCGCCCG 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KY: Canada
K1R 6K7
                                                                                                                                                                                                                                                                                                                                                                                                                 nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                880 Wellington Street, Suite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Richard C.
                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                        46.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PATHOGEN FUNGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DETECTION OF PLANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hamelin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24,034
                                                                                                                                                                                                                                                                     Score 171; DB 1;
Pred. No. 1.7e-42;
0; Mismatches 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      708
                                                                                                                                                                                                                                                                         90; Indels
                                                                                                                                                                                                                                                                                                         Length 583;
                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      356
```

ų.

```
; SOPTWARE: PatentIn ve
; SEQ ID NO 1
; LENGTH: 2293
; TYPE: DNA
; ORGANISM: Gibberella f
US-09-645-073-1
           RESULT 13
US-08-652-127C-6
                                                                                                                                            δô
                                                                                                                                                                           В
                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                     ş
                                                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 12
US-09-645-073-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                       Ş
                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 46.8
Best Local Similarity 70.6
Matches 259; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1, Application US/09645073 Patent No. 6287800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Lee, May APPLICANT: Galazzo, Jorge APPLICANT: Galazzo, Jorge TITLE OF INVENTION: Production of High Titers of Gibberellins GA4 and FILE REFERENCE: LO2-Olnp 116 /No /645.073
Sequence 6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER:
PRIOR FILING DATE: 1999
NUMBER OF SEQ ID NOS: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILE REFERENCE: L02-01NP
CURRENT APPLICATION NUMBER: US/09/645,073
CURRENT FILING DATE: 2000-08-25
                                                                                                                                                                                                                                    2101
                                                                                                                                                                                                                                                                                          2041
                                                                                                                                                                                                                                                                                                                                                1981
                                                                   2275
                                                                                                                                                                              2161
                                                                                                                                                                                                                                                                                                                                                                                                      1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        445
                                                                                                                                                                                                                                                              179
                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               386
                                                                                                                                                                                                          239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   239
                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                  _
                                                                 aacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                    aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGTGTTGGGGATCGGCGAGCCTCCGCGCCCCCCCTAAATCTAGTGGCGGTCTCG-
                                                                                                                                                                                                                                 ggtgttggggatcggcgagcccttgcggcaagccggccccgaaatctagtggcggtctcg
                                                                                                                                                                                                                                                                                                                                                          aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                     aaactttcaacaacggatctcttggttctggcatcgatgaagaacgcagcaaaatgcgat 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AACTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   aacttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGCCGTTAAACCCCCAACTTCTGAAAGTTTGACCTCGGATCAGGTAGGAATACCCGCTG 556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ccggcgtctccaaccttatcttctccaggttgacctcggatcaggtaggggatacccgctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ------CTGTAGCTTCCTCTGCGTAGTAGCACACCTCGCACTGGGAAACAGCGCGGC-C 496
                                                                                            aacttaa 365
                                                                                                                                   ccggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgctg 358
                                                                                                                                                                                                                                                   tgtgttgggtcgtcgtcccccccccgggggacggcccgaaaggcagcggcggcaccgg
                                                                                                                        caagecgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccgctg
                                                                                                                                                                            ctgcagcttccattgcgtagtagtaaaaccctcgc···-aactggtacgcgggcgcggc
                                                                                                                                                                                            aagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcacattgcgcccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PatentIn version 3.0
Application US/08652127C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            563
                                                                   2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MBER: US 60/151,770
1999-08-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            fujikuroi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          46.88;
70.68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 171; DB 4; Length 2293; Pred. No. 2.8e-42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches 100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                          2274
                                                                                                                                                                                 2214
                                                                                                                                                                                                                                     2160
                                                                                                                                                                                                                                                                                                                                                2040
                                                                                                                                                                                                           298
                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GA7
                                                                                                                                                                                                                                                                                                                                                                                                                                                              2
```

```
밁
                                                                                       δÃ
                                                                                                                             밁
                                                                                                                                                         Qy
                                                                                                                                                                                           밁
                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                        ρ
                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-652-127C-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/652,
FILING DATE: May 23, 1996
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: GEOTGE A. Seaby
REGISTRATION NUMBER: 24,034
REFERENCE/DOCKET NUMBER: 1898
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 232-5831
TELEPAX: (613) 232-5831
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Patent No. 5792611
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Richard C. Hamelin
TITLE OF INVENTION: DETECTION OF PLANT
TITLE OF INVENTION: PATHOGEN FUNGI
NUMBER OF SEQUENCES: 10
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
                                                                                                                                                                                                                                                                                                                                                                                         553
                               357 tgaacttaa 365
                                                               494
                                                                                                                             442 G-----
                                                                                                                                                              237
                                                                                                                                                                                                            177 tgtgtgtttgggtcgtcgtcccccccccggggggacgggcccgaaaggcagcggcggcacc
                                                                                                                                                                                                                                                             322
                                                                                                                                                                                           382 GGTGTTGGAGATCGGCGTGCCCCCCGGGGCGCGCCNSCTCCCAAATATAGTGGCGGTCTC
                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                           262 AAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACATTGCGCCCG 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: nucleic acid
STRANDEDNESS: doubl
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY: Canada
ZIP: K1R 6K7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 880 PCITY: Ottawa
                                                                                                                                                                                                                                                                                                                                              61 aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: George A. Seaby ADDRESSEE: Seaby & MacLean
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH:
                                                                               agceggegtetecaacettatetteteaggttgaeeteggatcaggtagggataeeege
                                                               -CACGCCGTTAAACCCCCCACTTCTGAAAGGTTGACCTCGGATCAGGTAGGAATACCCGC
                                                                                                                                                                                                                                                             CCAGTATTCTGGCGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCCCCCGGGCTT
                                                                                                                                                                                                                                                                            ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagccc----ggct 176
TGAACTTAA
                                                                                                                                                       266;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          880 Wellington Street,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             581
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                             -CTGTAGCTTCCTCTGCGTAGTAGCACACCTCGCACTGGAAAACAGCGTGGC
561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           46.8%;
72.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US/08/652,127C
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 170.8; DB 1.
Pred. No. 1.9e-42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Suite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               89;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 581;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               13;
```

Gaps

'n

RESULT 14 US-09-026-601-38

356 493

552

441 236 381

296

```
δ
                                                                                                                                              US-09-026-601-38
                                                     Query Match
Best Local Similarity
Matches 258; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: 919-541-8689
INFORMATION FOR SEQ ID NO: 3
SEQUENCE CHARACTERISTICS:
LENGTH: 579 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 38, Application US/09026601 Patent No. 6358680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: CG
TELECOMMUNICATION INFORMATION:
TELEPHONE: 919-541-8587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION: NAME: Meigs, J. Timothy REGISTRATION NUMBER: 38,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: Detection of Wheat and Barley Fungal TITLE OF INVENTION: Pathogens Using the Polymerase Chain Reaction NUMBER OF SEQUENCES: 41
                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: |
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 6358680artis Corporation
                                                                                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Pyrenophora tritici-repentis INDIVIDUAL ISOLATE: 407
IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NERAL INFORMATION: APPLICANT: Beck,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: misc_feature LOCATION: 1..30
OTHER INFORMATION: /notOTHER INFORMATION: rRNJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 3054 Cornwallis Road
CITY: Research Triangle Park
STATE: No. 6358680th Carolina
                                                                                                                                                       NAME/KEY: misc_feature
LOCATION: 527..579
OTHER INFORMATION: /note= "5' end of large subunit
OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                           NAME/KEY: misc_feature LOCATION: 209..365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS:
TOPOLOGY: li
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/09/026,601 FILING DATE:
                                                                                                                                                                                                                                                    OTHER INFORMATION:
                                                                                                                                                                                                                                                                     NAME/KEY: misc_feature LOCATION: 366..526
                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: misc_feature LOCATION: 31..208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
2 aactttcaacaatggatctctttggttccggcatcgatgaagaacgcagcgaactgcgata 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7-3-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     James J
                                                                      46.78;
                                                                                                                                                                                                                                                                                                                                                                                               /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "3' end of small subunit rRNA gene" \frac{1}{2}
                                                                                                                                                                                                                                                    /note-
                                                                                                                                                                                                                                                                                                                         /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           38,241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGC 1984
                                                   Score 170.4;
Pred. No. 2.6e
1; Mismatches
                                                                                                                                                                                                                                                                                                                         "5.8S rRNA gene"
                                                     2.6e-42;
ches 92;
                                                                                        DB 4;
                                                       Indels
                                                                                          Length
                                                                                            579;
                                                         13;
                                                       Gaps
                                                       2;
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 15
US-09-026-601-37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Patent No. 6358680
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 37,
                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,241
REFERENCE/DOCKET NUMBER: CGC
TELECOMMUNICATION INFORMATION:
TELEPHONE: 919-541-8587
                                                                                                                                                                                                            TELEFAX: 919-541-8689
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: PatentIn Release #1.0, Version CURRENT APPLICATION DATA:
                                          ORGANISM: Pyrenophora tritici-repentis INDIVIDUAL ISOLATE: 109
IMMEDIATE SOURCE:
                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 580 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: Detection of wheat and Barley Fungal TITLE OF INVENTION: Pathogens Using the Polymerase Chain Reaction
               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
                                                                                               ORIGINAL SOURCE:
                                                                                                                  MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          556 TTAA 559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       362 ttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    209 AACTTTCAACAACGGATCTCTTGGTTCTGGCATCGATGAAGAACGCAGCGAAATGCGATA 268
                                                                                                                                                                                                               TELEPHONE: 919-541-8689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET: 3054 Cornwallis Road
CITY: Research Triangle Park
STATE: No. 6358680th Carolina
                                                                                                                               STRANDEDNESS:
TOPOLOGY: 11r
                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
 NAME/KEY:
                                  CLONE:
                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gttgggtcgtcgtcccccccccgggggacgggcccgaaaggcagcggcggcaccggtcc 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTTTCGGAGCGCAGCACATTATTTGCGCTCTTGTYCAGCCGCGGTCG------C 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtgt 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGGGCGTCTTGTCTCTCTCCC---GAGACTCGCCTTAAAATCATTGGCAGCCGGCCTAC 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTATTCCAAAGGGCATGCCTGTTCGAGCGTCATTTGTACCCTCAAGCTTTGCTTGGTG 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/09026601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               USA
                                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Beck, James J.
misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            No. 6358680artis Corporation
                                                                                                              DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                               US/09/026,601
                                                                                                                                                                                                                                                                                CGC 1984
                                                                                                                                                                                                                                                                                                                                                                                                                #1.30
```

```
NAME/KEY: misc_feature
LOCATION: 367..527
LOCATION: 367..527
TOTHER INFORMATION: /note= "ITS2"
FEATURE:
NAME/KEY: misc_feature
LOCATION: 528..580
COTHER INFORMATION: /note= "5' end of the companion of the compa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ŷ
Search completed: August 21, 2002, 22:12:23 Job time: 5696 sec
                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                         Вþ
                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 46.5%;
Best Local Similarity 70.3%;
Matches 256; Conservative 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: misc_feature
LOCATION: 31..209
OTHER INFORMATION: /note= "ITS1"
FEATURE:
NAME/KEY: misc_feature
LOCATION: 210..366
OTHER INFORMATION: /note= "5.85 rR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                 557
                                                                                                                                                                                                                            362 ttaa 365
                                                                                                                                                                                                                                                                                             497
                                                                                                                                                                                                                                                                                                                                                       302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOCATION: 1..30
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                               TWAA 560
                                                                                                                                                                                                                                                                                                                            gcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgctgaac 361
                                                                                                                                                                                                                                                                                             GCGTCCATGAAGCTTCTTTCAACCTTTTGACCTCGGATCAGGTAGGGATACCCGCTGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "3' end of small subunit rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 169.6; DB 4; Length 580; Pred. No. 4.5e-42; 3; Mismatches 92; Indels 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            end of large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2;
```

Pending Nucleic Acid and/or Pending Amino Acid database searches now generate two sets of results. These databases were split into to two parts to reduce the time needed to update the databases daily. The split freed up more machine time for processing searches.

Searches run against the Nucleic Acid Pending database produce two sets of results, with the extensions, .rnpm and .rnpn

Searches run against the Amino Acid Pending database produce two sets of results, with the extensions, .rapm and .rapn

The Pending database search results should not be left in the case because they contain data that is confidential.

The state of the s

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum DB seq
Maximum DB seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Total number of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pending_Patents_NA_Main:*

1: /cgn2_6/ptodata/1/pna//po
2: /cgn2_6/ptodata/1/pna//us
3: /cgn2_6/ptodata/1/pna//us
4: /cgn2_6/ptodata/1/pna//us
5: /cgn2_6/ptodata/1/pna//us
6: /cgn2_6/ptodata/1/pna//us
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hits satisfying chosen parameters:
                          110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
1110...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-046-955-5
365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              August 21, 2002, 21:01:55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21979536 segs, 10817449327 residues
/cgn2_6/ptcdata//pna/US08_COMB.seq:*
/cgn2_6/ptcdata//pna/US09_COMB.seq:*
/cgn2_6/ptcdata//pna/US09_B_COMB.seq:*
/cgn2_6/ptcdata//pna/US00A_COMB.seq:*
/cgn2_6/ptcdata//pna/US00A_COMB.se
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aaactttcaacaatggatct.....gggatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /cgn2_6/ptodata/1/pna/US06_COMB.seq:*
/cgn2_6/ptodata/1/pna/US07_COMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /ptodata/1/pna/PCTUS_COMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Search time 8184.59 Seconds (without alignments) 964.830 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   43959072
```

```
44: /cgn2_6/ptodata/1/pna/US6005_COMB.seq:
45: /cgn2_6/ptodata/1/pna/US6006_COMB.seq:
47: /cgn2_6/ptodata/1/pna/US6009_COMB.seq:
48: /cgn2_6/ptodata/1/pna/US6009_COMB.seq:
48: /cgn2_6/ptodata/1/pna/US6009_COMB.seq:
59: /cgn2_6/ptodata/1/pna/US6011_COMB.seq:
59: /cgn2_6/ptodata/1/pna/US6012_COMB.seq:
60: /cgn2_6/ptodata/1/pna/US6012_COMB.seq:
60: /cgn2_6/ptodata/1/pna/US6012_COMB.seq:
61: /cgn2_6/ptodata/1/pna/US6021_COMB.seq:
62: /cgn2_6/ptodata/1/pna/US6022_COMB.seq:
63: /cgn2_6/ptodata/1/pna/US6022_COMB.seq:
64: /cgn2_6/ptodata/1/pna/US6024_COMB.seq:
65: /cgn2_6/ptodata/1/pna/US6026_COMB.seq:
66: /cgn2_6/ptodata/1/pna/US6026_COMB.seq:
67: /cgn2_6/ptodata/1/pna/US6026_COMB.seq:
68: /cgn2_6/ptodata/1/pna/US6026_COMB.seq:
69: /cgn2_6/ptodata/1/pna/US6023_COMB.seq:
69: /cgn2_6/ptodata/1/pna/US6023_COMB.seq:
69: /cgn2_6/ptodata/1/pna/US6023_COMB.seq:
69: /cgn2_6/ptodata/1/pna/US6023_COMB.seq:
69: /cgn2_6/ptodata/1/pna/US6023_COMB.seq:
69: /cgn2_6/ptodata/1/pna/US6031_COMB.seq:
69: /cgn2_6/ptodata/1/pna/US6036_COMB.seq:
69: /cgn2_6/ptodata/1/pna/US6036_COMB.seq:
69: /cgn2_6/ptodata/1/pna/US6036_COMB.seq:
69: /cgn2_6/ptodata/1/pna/US6036_COMB.seq:
60: /cgn2_6/ptodata/1/pna
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

28 29 30 31	c 225 227 227 228 227 227 227	5 6 6 7 7 10 11 11 13	Result No. 1 2 2 3 C 4
239.8 230.4 230 230 221.2	(1) (1) . (1) . (1) . (1)		cor 36 34. 34.
63.1 63.0 60.6	76.7 74.8 74.8 74.7 71.5 71.0 70.1 70.1 70.1	91.3 91.0 88.2 86.6 84.4 802.1	37.70 CFT
355 850 382	599 599 601 601 676 676 685 595 595	568 574 642 381 551 569 552 646	
18 18 16	110 110 110 110 110 110 110 110 110 110	52 52 52 52 18 18	DB 18 22 18
US-09-580-797-8 US-09-423-233-4 US-09-404-520-17173 US-09-241-427-2	109-580-797 109-580-797 109-580-797 109-580-797 109-580-797 109-580-797 109-580-797 109-580-797 109-580-797 109-580-797 109-580-797 109-580-797 109-580-797 109-580-797	-60-132-861 -60-132-861 -09-580-797-60-132-861 -60-132-861 -60-132-861 -60-132-861 -09-580-797 -09-404-797 -09-580-797 -09-423-233	US-09-423-233-5 US-09-580-797-36 US-09-404-520-5963 US-60-132-861-8175
Sequence 8, Appli Sequence 4, Appli Sequence 17173, A Sequence 2, Appli	35 35 37 30 30 30 30 30 30 30 30 30 30 30 30 30	7761 10156, 6, App 7287, 7287, 9331, 9331, 9331, 17184, 3, App	Sequence 5, Appl 1 Sequence 36, Appl 5 Sequence 5963, Appl Sequence 5963, Appl 5

```
δ
                                                                                 В
                                                                                                  Ş
                                                                                                                           В
                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                              : LENGTH: 365
: TYPE: DNA
: ORGANISM: Aspergillus nidulans
US-09-423-233-5
                                          밁
                                                                                                                                                                     밁
                                                                                                                                                                                      ð
                                                                                                                                                                                                              망
                                                                                                                                                                                                                                 ş
                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                     ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 1
US-09-423-233-5
US-09-580-797-36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ი
                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Sim
Matches 365;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 5, Application US/09423233

GENERAL INFORMATION:
APPLICANT: The Government of the United States of America as TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 03063-0341MP
CURRENT APPLICATION NUMBER: US/09/423,233
CURRENT FILING DATE: 2000-06-27
NUMBER OF SEQ ID NOS: 61
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                             361
                                                                                  301
                                                                                                       301
                                                                                                                            241
                                                                                                                                                241
                                                                                                                                                                     181
                                                                                                                                                                                          181
                                                                                                                                                                                                               121
                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                         / Match 100.0%;
Local Similarity 100.0%;
hes 365; Conservative (
                                                                                                                                                                                                                                                          13
                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                  _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 220.6
220.6
219.2
212.8
212.8
210.6
206.8
206.6
206.6
206.6
190.8
                                                                                                                          ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                            aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                          cttaa
                                                              cttaa 365
                                                                                  ggcgtctccaaccttatcttctcaggttgacctcggatcaggtagggatacccgctgaa
                                                                                            ggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgctgaa
                                                                                                                                                                   tgttgggtcgtcgtccccccccgggggacgggcccgaaaggcagcggcaccggtc
                                                                                                                                                                                                                                                                   aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                  aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                                                                                                                                                                       aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                          365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 498
498
414
654
700
692
611
309
568
451
465
714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 114
114
118
118
118
118
118
118
118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCT-US99-04251-6
US-09-037-990-6
US-09-132-861-11629
US-09-580-797-16
US-09-580-797-17
PCT-US98-25210-4
US-09-423-233-28
US-09-423-233-28
US-09-423-233-28
US-60-132-861-4200
US-60-132-861-6561
US-60-132-861-6561
US-60-132-861-6561
US-60-132-861-6561
US-60-132-861-6561
US-60-132-861-6561
US-60-132-861-6561
                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                     Score 365; DB 18;
Pred. No. 1.1e-84;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 6, Appli
Sequence 16, Appli
Sequence 116, Appl
Sequence 16, Appl
Sequence 17, Appl
Sequence 17, Appl
Sequence 28, Appl
Sequence 28, Appl
Sequence 5, Appl
Sequence 4200, Ap
Sequence 31, Appl
Sequence 31, Appl
Sequence 37, Appl
Sequence 37, Appli
Sequence 37, Appli
                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                   180
                                                                                                                           300
                                                                                                                                                300
                                                                                                                                                                                                               180
                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                           0;
```

```
APPLICANT: Iwen, Peter C.
APPLICANT: Henry, Travis
APPLICANT: Henry, Travis
APPLICANT: Board of Regents of the University of Nebraska
TITLE OF INVENTION: Materials and Methods for Molecular
TITLE OF INVENTION: Detection of Clinically Relevant Pathogenic Fungal Spec
FILE REFERNCE: UNMC 63149
CURRENT APPLICATION NUMBER: US/09/580,797
CURRENT APPLICATION NUMBER: US/09/580,797
CURRENT FILING DATE: 2000-05-30
NUMBER OF SEQ ID NOS: 39
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 36
LENGTH: 565
TYPE: DNA
ORGANISM: Aspergillus nidulans
US-09-580-797-36
                                                                             APPLICANT: Cao, Yongwei
APPLICANT: Ghodssi, Azita
APPLICANT: Hinkle, Gregory J.
APPLICANT: McIninch, James
APPLICANT: Timberlake, William E.
APPLICANT: Yu, Jaehyuk
TITLE OF INVENTION: Emericella nidulans Genome Sec
FILE REFERENCE: 38-10(15498)A
CURRENT APPLICATION NUMBER: US/09/404,520
CURRENT FILING DATE: 1999-09-23
                                                                                                                                                                                                                                                                     RESULT 3
US-09-404-520-5963
                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
US-09-404-520-5963
                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                       NUMBER OF SEQ ID NOS:
SEQ ID NO 5963
LENGTH: 9143
                                                                                                                                                                                                                                         Sequence 5963, Application US/09404520 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 360; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 36, Application US/09580797 GENERAL INFORMATION:
       ORGANISM: Aspergillus nidulans
                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                 acttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                                                                        acttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tgttgggtcgtcgt.---ccccccggggggacgggcccgaaaggcagcggcggcaccgtgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                    545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       91.7%; Score 334.8; DB 22; ilarity 98.4%; Pred. No. 8.4e-77; Conservative 0; Mismatches 2;
                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 565;
                                                                                                                                 and
                                                                                                                                 Uses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                             539
                                                                                                                                                                                                                                                                                                                                                                                                                                                       479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              239
                                                                                                                                                                                                                                                                                                                                                                                                                         359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Species
```

2;

```
RESULT 4

US-60-132-861-8175/c

Sequence 8175, Appli

GENERAL INFORMATION:

APPLICANT: Cao, Yon

APPLICANT: Timberla

TITLE OF INVENTION:

FILE REFERENCE: 38-

CURRENT APPLICATION

CURRENT FILING DATE

NUMBER OF SEQ ID NC

SEQ ID NO 8175

LENGTH: 458
                                                                         9
                                                                                                                                                                                                                                                                         Sequence 8175, Application US/60132861
GENERAL INFORMATION:
APPLICANT: Cao, Yongwei
APPLICANT: Timberlake, William E.
TITLE OF INVENTION: ASPERGILLUS NIDULANS GENOME SEQUENCE AND USES THEREOF
FILE REFERENCE: 38-21(15485)C
CURRENT APPLICATION NUMBER: US/60/132,861
CURRENT FILING DATE: 1999-05-07
NUMBER OF SEQ ID NOS: 13800
SEQ ID NO 8175
SEQ ID NO 8175
LENGTH: 458
TYPE: DNA
GRANLISM: Aspergillus nidulans
US-60-132-861-8175
  밁
                       δ
                                                     ₽
                                                                                                       밁
                                                                                                                               ş
                                                                                                                                                         В
                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 360
                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 359; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4645 acttaa
  224
                          181
                                                     284
                                                                              121
                                                                                                       344
                                                                                                                                                          404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Sin
                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                                                                      AAACTTTCAACAATGGATCTCTTGGTTCCGGCATGAAGAAGGCAGCGAACTGCGAT 34
            tgttgggtcgtcgtcccccccccgggggacgggcccgaaaggcagcggcggcaccg-gt 239
                                                                 ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                    aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                   CTGGCATTCCGGGGGGCATGCCTGTCCGAGCGTCATTGCTGCCCTCAAGCCCGGCTTGTG
                                                                                                      AAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAGTCTTTGAACGCACATTGCGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                acttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cggcgtctccaaccttatcttctccaggttgacctcggatcaggtagggatacccgctga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tgttgggtcgtcgtcccccccccgggggacgggcccgaaaggcagcggcggcgccg-gt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cggcgtctccaaccttatttttctcaggttgacctcggatcaggtagggatacccgctga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tgttgggtcgtcgt---cccccccgggggacgggcccgaaaggcagcggcggcaccgtgt 4524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 4347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4650
                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    91.7%;
98.4%;
                                                                                                                                                                                                                       91.3%;
CCCCCCGGGGGACGGGCCCGAAAGGCAGCGGCGCGCACCGTGT
                                                                                                                                                                                                          Score 333.2;
Pred. No. 2.16
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 334.8; DB 18;
Pred. No. 1.3e-76;
0; Mismatches 2;
                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                        ;
2.1e-76;
3;
                                                                                                                                                                                                                                  DB 52;
                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9143;
                                                                                                                                                                                                          4.
                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                 225
                                                                          180
                                                                                                     285
                                                                                                                                                        345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 299
                                                                                                                                                                                                          2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2
```

```
APPLICANT: Cao, Yongwei
APPLICANT: Timberlake, William E.
APPLICANT: Timberlake, William E.
TITLE OF INVENTION: ASPERGILLUS N
FILE REFERENCE: 38-21(15485)C
CURRENT APPLICATION NUMBER: US/60
CURRENT FILING DATE: 1999-05-07
NUMBER OF SEQ ID NOS: 13800
SEQ ID NO 7761
                                                                                 RESULT 6
US-60-132-861-10156
                                                                                                                                                     Ş
                                                                                                                                                                              밁
                                                                                                                                                                                                 ρ
                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TYPE: DNA
; ORGANISM: Aspergillus
US-60-132-861-7761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 5
US-60-132-861-7761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
      Sequence 10156, Application US/60132861
GENERAL INFORMATION:
APPLICANT: Cao, Yongwei
APPLICANT: Timberlake, William E.
TITLE OF INVENTION: ASPERGILLUS NIDULANS GENOME
FILE REFERENCE: 38-21(15485)C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 7761, Application US/60132861 GENERAL INFORMATION:
 CURRENT APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 568
                                                                                                                                 531
                                                                                                                                                       360
                                                                                                                                                                              471
                                                                                                                                                                                                   300
                                                                                                                                                                                                                           411
                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                           354
                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                         294
                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                       234
                                                                                                                                                                                                                                                                                                                                                                                                                      174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   47
                                                                                                                                                                                                                                                                                                                                                                                                                             1 aaactttcaacaatggatctcttggttccggcatcgatgaaggaacgcagcgaactgcgat
                                                                                                                                            acttaa
!|||||
                                                                                                                                                                                                                                                                                                                                                                 acttaa
                                                                                                                                                                                        cggcgtctccaaccttatcttctcaggttgacctcggatcaggtagggatacccgctga
                                                                                                                                                                                                                                    tgttgggtcgtcgtcccccccccgggggacgggcccgaaaggcagcggcggcagcg-gt 239
                                                                                                                                                                                                                                                                                                                   ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                                                                                                  aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACTTAA
                                                                                                                                                                          cggcgtctccaaccttattttctcaggttgacctcggatcaagtagggatacccgctga
                                                                                                                                                                                                                       ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cggcgfctccaaccttatcttctcaggttgacctcggatcaggtagggatacccgctga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tgttgggtcgtcgt---cccccccgggggacgggcccgaaaggcagcggcggcaccgtgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       acttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     359;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91.3%;
98.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nidulans
US/60/132,861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LIAM E.
LIUS NIDULANS GENOME SEQUENCE AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US/60/132,861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 333.2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. 2.2e-76;
D; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         52;
                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                     AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           568;
                     USES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ٠.
                     THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                  359
                                                                                                                                                                                                                        470
                                                                                                                                                                                                                                               299
                                                                                                                                                                                                                                                                       410
                                                                                                                                                                                                                                                                                                                      353
                                                                                                                                                                                                                                                                                                                                                                     293
                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2
```

```
CURRENT FILING DATE: 199
NUMBER OF SEQ ID NOS: 13
SEQ 1D NO 10156
LENGTH: 574
TYPE: DNA
OGANISM: ASPETSILUS n
US-60-132-861-10156
Ş
                     밁
                                      δ
                                                                                                                  LENGTH: 642
TYPE: DNA
ORGANISM: Aspergillus
US-09-580-797-6
                                                                                                                                                                                                                                                                                                             RESULT 7
US-09-580-797-6
                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                             Query Match
Best Local S
Matches 347
                                                                                                                                                         APPLICANT: Iwen, Peter C.
APPLICANT: Hinrichs, Steven H.
APPLICANT: Hinrichs, Steven H.
APPLICANT: Henry, Travis
APPLICANT: Board of Regents of the University of Nebraska
TITLE OF INVENTION: Materials and Methods for Molecular
TITLE OF INVENTION: Detection of Clinically Relevant Pathogenic |
FILE REFERENCE: UNKC 63149
CURRENT APPLICATION NUMBER: US/09/580,797
CURRENT FILING DATE: 2000-05-30
NUMBER OF SEQ ID NOS: 39
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 6
                                                                                                                                                                                                                                                                                        Sequence 6, Application US/09580797 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                          402
                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                  342
                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                            282
                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    122
 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
nes 358; Conserv
                 N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cttaa 406
                                                                                                                                                                                                                                                                                                                                                                                              aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                                                                                                                                                                                                                                                                                                                                                           cttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                   cggtcctcgagcgtatggggcttggtcacccgctcgattagggccgggccgggcggccagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gttgggtcgtcgt---ccccccggggggacgggcccgaaaggcagcggcggcaccgtgtc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtgt
                                                              1 Similarity
347; Conserv
                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1999-05-07
: 13800
                                                                       88.2%;
98.3%;
                                                                                                                            nidulans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   91.0%;
98.1%;
                                                            Score 321.8; DB 22
Pred. No. 2.1e-73;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 332.2; DB 52;
Pred. No. 4e-76;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ω
···
                                                             Indels
                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                  642;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             574;
                                                             4.
                                                                                                                                                                                                                       Fungal
                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                401
                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                        341
                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                        Species
                                                            2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2
```

```
US-60-132-861-9331/c
; Sequence 9331, Application
; GENERAL INFORMATION:
; APPLICANT: Cao, Yongwei
; APPLICANT: Timberlake, W.
                                                                                                                                                  Вþ
                                                                                                                                                                                                                     Š
                                                                                                                    Q
                                                                                                                                                                       Ş
                                                                                                                                                                                               Вb
                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                              Ъ
                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: Aspergillus nidulans
US-60-132-861-7287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 8
US-60-132-861-7287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Cao, Yongwei
APPLICANT: Timberlake, William E.
APPLICANT: Timberlake, William E.
TITLE OF INVENTION: ASPERGILLUS NIDULANS GENOME SEQUENCE /
FILE REFERENCE: 38-21(15485)C
CURRENT APPLICATION NUMBER: US/60/132,861
CURRENT FILING DATE: 1999-05-07
NUMBER OF SEQ ID NOS: 13800
SEQ ID NO 7287
LENGTH: 381
TYPE: DNA
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 7287, Application GENERAL INFORMATION:
                                                                                                   298
                                                                                                                       314
                                                                                                                                                238
                                                                                                                                                                        254
                                                                                                                                                                                                181
                                                                                                                                                                                                                         195
                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                        135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        353
                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                     75
                                                                                                                                                                                                                                                                                                                                                                      15
                                                                                                                                                                                                                                                                                                                                             L
                                                                                                           ---cccccccgggggacgggcccgaaaggcagcggcggcaccgtgtccggtcctcgagcg
                                                                                                                                                                                                                                                                                           ttatttttctcaggttgacctcggatcaggtagggatacccgctgaacttaa
                                                                                                                                                        tatggggcttggtcacccgctcgattagggccggccgggcgccagccggcggctctccaacc
                                                                                                                                                                                                                                                                                                                                        ggatctcttggttccggcctcgatgaagaacgcagcgaactgcgataagtaatgtgaatt
                                                                                                                                                                                                                                                                                                                                                      ggatctcttggttccggcatcgatgaagaacgcagcgaactgcgataagtaatgtgaatt 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tatggggctttgtcacccgctcgattagggccggccgggcgccagccggcgtctccaacc
                                                                                                                                                                                                       ggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtgtgttggtcgtcgt
                                                                                                                                                                                                                                                       tgttgggtcgtcgtccccccccgggggacgggcccgaaaggcagcggcggcaccg-gt 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagccccggcttgtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tgttgggtcgtcgt---cccccccgggggacgggcccgaaaggcagcggcggcaccgtgt 529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                                                                                                            al Similarity
343; Conserv
                                       Application US/60132861
                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                     86.6%;
97.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US/60132861
                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                          Score 316; DB 52;
Pred. No. 6.1e-72;
0; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                  Length 381;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AND USES
                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                THEREOF
                                                                                                                                                                                             237
                                                                                                                                                                                                                    253
                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                    134
                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       412
                                                                                                                                               297
                                                                                                                                                                                                                                                                                                                                                                                          2
```

William

```
Sequence 39, Application US/09580797

GENERAL INFORMATION:

APPLICANT: Iwen, Peter C.

APPLICANT: Hinrichs, Steven H.

APPLICANT: Henry, Travis

APPLICANT: Board of Regents of the University of Nebraska

TITLE OF INVENTION: Materials and Methods for Molecular

TITLE OF INVENTION: Detection of Clinically Relevant Pathogenic Fungal Species

FILE REFERENCE: UNMC 63149

CURRENT APPLICATION NUMBER: US/09/580,797

CURRENT APPLICATION NUMBER: US/09/580,797

CURRENT FILING DATE: 2000-05-30

NUMBER OF SEQ ID NOS: 39

SOFTWARE: FastSEQ for Windows Version 3.0

SEQ ID NO 39

LENGTH: 569

TYPE: DNA

ORGANISM: Aspergillus ustus
                                                                                                                                                                                                                                                                                                                                                                  US-09-580-797-39
US-09-580-797-39
Sequence 39, Applicant: Informaticant: Here applicant: Here applicant: Here applicant: Here applicant: Bost Title OF INVENT: TITLE OF INVENT: TITLE OF INVENT: TITLE TITLE OF INVENT: TITLE Applicant FILE REFERENCE: CURRENT Applicant CURRENT FILING UNABER OF SEQUENCE APPLICATION OF SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         : NUMBER OF SEQ ID NOS: 13800

: SEQ ID NO 9331

: LENGTH: 551

: TYPE: DNA

: ORGANISM: Aspergillus nidula

US-60-132-861-9331
                       ş
                                                                밁
                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                              Query Match
Best Local Similarity
Matches 356; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 335; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: ASPERGILLUS NIDULANS GENOME SEQUENCE FILE REFERENCE: 38-21(1545)C CURRENT APPLICATION NUMBER: US/60/132,861
CURRENT FILING DATE: 1999-05-07
                                                                185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         491
                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24 ggttccggcatcgatgaagaacgcagcgaactgcgataagtaatgtgaattgcagaattc
aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                                        tcaggttgacctcggatcaggtagggatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     c99999ac999cccgaaa9gcagcggcggcaccg-gtccggtcctcgagcgtatggggct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tggtcacccgctcgattagggccggccgggcgccagccggcggcgtctccaaccttatcttc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGTTCCGGCATCGAAGAACGCAGCGAACTGCCATAAGTAATGTGAATTGCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGTCACCCGCTCGATTAGGGCCGGCCGGCGCCAGCCGGCGTCTCCAACCTTATTTTTC
                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                  83.9%;
96.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84.4%; Score 308.2; DB 97.7%; Pred. No. 7e-70;
                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                          Score 306.4; DB 22; Pred. No. 2.1e-69; 0; Mismatches 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 52;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ω,.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              365
                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               USES
                                                                                                                                              6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               THEREOF
                                                            244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            203
                                                                                                                                            4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2
                   밁
                                                                                               밁
                                                                                                                                      Ş
                                                                                                                                                                                 밁
                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-404-520-17184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 17184, Application
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                        275
                                                                                                                                                                                                                        216
                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   358 gaacttaa 365
||||||||
542 gaacttaa 549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          365
                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          245
                                                                                                                                                                                                                                                                                                                                                                                        96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          36
                                                                                                                                                                                                                                                                                                                                                                                                                                 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               325;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             82.1%;
ilarity 98.2%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
```

```
GENERAL INFORMATION:
APPLICANT: GAO, Yongwei
APPLICANT: Ghodssi, Azita
APPLICANT: Ghodssi, Azita
APPLICANT: Hinkle, Gregory J.
APPLICANT: Timberlake, William E.
APPLICANT: Timberlake, William E.
APPLICANT: Yu, Jaehyuk
TITLE OF INVENTION: Emericella nidulans Genome Sequence and Uses
FILE REFERENCE: 38-10(15498)A
CURRENT APPLICATION NUMBER: US/09/404,520
CURRENT APPLICATION NUMBER: US/09/404,520
CURRENT FILING DATE: 1999-09-23
NUMBER OF SEO ID NOS: 44345
SEQ ID NO 17184
CREANISM: ASPETGILLUS NIDULANS
CORANISM: ASPETGILLUS NIDULANS
                                                 cgattagggccggccggccagccggcgtctccaaccttatctttctcaggttgacct
cggatcaggtagggatacccgctgaacttaa
                                                                                                                                            ccgaaaggcagcggcgcgccg-gtccggtcctcgagcgtatggggcttggtcacccgct
                                                                                                                                                                                                                  agtctttgaacgcacattgcgccccctggcattccgggggggcatgcctgtccgagcgtca
                                                                                                                                                                                                                                                                                                                                                             gatgaagaacgcagcgaactgcgataagtaatgtgaattgcagaattcagtgaatcatcg 95
                                                                                                                         ccgaaaggcagcggcaccgtgtccggtcctcgagcgtatggggctttgtcacccgct
                                                                                                                                                                                             ttgctgccctcaagcccggcttgtgtgttgggtcgtcgt---cccccccgggggacgggc
                                                                                                                                                                                                                                                                                        agtctttgaacgcacattgcgccccctggcattccggggggcatgcctgtccgagcgtca
                                                                                                                                                                                                                                                                                                                                            gatgaagaacgcagcgaactgcgataagtaatgtgaattgcagaattcagtgaatcatcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ccggcgtctccaaccttat-cttctcaggttgacctcggatcaggtagggatacccgct 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gtgttgggtcgtcgt---cccctccgggggacgggcccgaaaggcagcggcggcaccgcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ctggcattccggggggcatgcctgtccgagcgtcattgctgcccttcaagcccggcttgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ctggcattccggggggcatgcctgtccgagcgtcattgctgccc-tcaagcccggcttgt 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US/09404520
                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 299.8;
Pred. No. 1.1
                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                  365
                                                                                                                                                                                                                                                                                                                                                                                                                                     8; DB 18;
1.1e-67;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                      552;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Uses Thereof
                                                                                                                                                                                                                                                                                                                                                                                                                  ۵.
                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                         155
                                                                                                                                                               274
                                                                                                                                                                                                 177
                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                   215
                                                     297
                                                                                                                           237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           304
                                                                                                                                                                                                                                                                                                                                                                                                                  2:
```

ω

```
; SEQ ID NO 3
; LENGTH: 365
; TYPE: DNA
; ORGANISM: Aspergillus n
US-09-423-233-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; TYPE: DNA ; ORGANISM: Aspergillus ustus US-09-580-797-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-580-797-3
                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                              US-09-423-233-3
                                                                                                                                                              Sequence 3, Application US/09423233

GENERAL INFORMATION:
APPLICANT: The Government of the United States of America as TITLE OF INVENTION: Outleft Acids for Detecting Aspergillus Species and TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 03063-0341WP
CURRENT APPLICATION NUMBER: US/09/423,233
CURRENT FILING DATE: 2000-06-27
NUMBER OF SEQ ID NOS: 61
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: FastSEQ for Windows Version 3.0 SEQ ID NO 3 LENGTH: 646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 3, Applicat GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 80.4%; Score 293.4; DB 22; Best Local Similarity 96.6%; Pred. No. 5.1e-66; Matches 343; Conservative 0; Mismatches 6; I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Iwen, Peter C.
APPLICANT: Hinrichs, Steven H.
APPLICANT: Henry, Travis
APPLICANT: Henry, Travis
APPLICANT: Board of Regents of the University of Nebraska
TITLE OF INVENTION: Materials and Methods for Molecular
TITLE OF INVENTION: Detection of Clinically Relevant Pathogenic Fungal Species
FILE REFERENCE: UNNC 63149
CURRENT APPLICATION NUMBER: US/09/580,797
CURRENT FILING DATE: 2000-05-30
NUMBER OF SEC ID NOS: 39
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           475
                                                                                                                                                                                                                                                                                                                                                                                                                                         592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 ctggcattccggggggcatgcctgtccgagcgtcattgctgccc-tcaagccccggcttgt 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     295 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      l aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aagtaalgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                   aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ctggcattccggggggcatgcctgtccgagcgtcattgctgcccttcaagcccggcttgt 474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Application US/09580797
 77.9%;
91.3%;
                                                                                            niger
Score 284.2; DB 18; Pred. No. 1.2e-63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6; Indels
                 Length 365;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4;
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-60-082-300-11599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 11599, Application US/60082300 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
             TELEFAX: (650) 845-4166
INFORMATION FOR SEQ ID NO: 11
SEQUENCE CHARACTERISTICS:
LENGTH: 7997 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: LAGACE, ROBERT E.
APPLICANT: CORLEY, NEIL C.
APPLICANT: RUSSO, FRANK D.
APPLICANT: HANN, AMY L.
APPLICANT: HEATH, JOE D.
APPLICANT: FINNEY, GREGORY L.
APPLICANT: BROOKS, JACQUELLNE
APPLICANT: BROOKS, JACQUELLNE
TITLE OF INVENTION: NUCLECTIDE SEQUENCES OF ASPERGILLUS FUMIGATUS
TITLE OF INVENTION: GENOME, FRAGMENTS THEREOF, AND USES THEREOF
NUMBER OF SEQUENCES: 21910
CORRESPONDENCE ADDRESS:
                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: CERFONE, MICHAEL C.
REGISTRATION NUMBER: 39,132
REFERENCE/DOCKET NUMBER: PM-00014 P
                                                                                                                                                                                                                                                                            SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS CURRENT APPLICATION FA'A:
                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
                                                                                                          TELECOMMUNICATION INFORMATION: TELEPHONE: (650) 855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
LENGTH: 7997
TYPE: nucleic
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181 tgttgggtcgtcgtccccc-cccccgggggacgggcccgaaaggcagcggcggcaccg-g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                             MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-FOCT 6 1 for 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         359 aacttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 ctggtattccggggggcatgcctgtccgagcgtcattgctgccctcaagcacggcttgtg
                                                                                                        TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                STATE: CALIFO
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 3174 POI
CITY: PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                          CLASSIFICATION:
                                                                                                                                                                                                                                          APPLICATION NUMBER: FILING DATE: HEREWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 l aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaaatgcgat 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ccggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tccgatcctcgagcgtatggggctttgtcacctgctc..tgtaggcccggccggcgcctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tccggtcctcgagcgtatggggcttggtcacccgctcgattagggccgggccgggccag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aactaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ccgacgttatccaaccatttttttccaggttgacctcggatcaggtagggatacccgctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tgttgggtcgccgtccccctctcccgggggacgggcccgaaaggcagcggcggcaccgcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          335;
                                                                                                                                                                                                                                                                                                                                                                                                  94304
                                                                                                                                                                                                                                                                                                                                                                                                                                   CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3174 PORTER DRIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INCYTE PHARMACEUTICALS, INC
                                                                                                                                                                                                                                          HEREWITH
                                                                                                                                                                                                                                                              US/60/082,300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
```

```
APPLICANT: Iwen, Peter C.

APPLICANT: Hinrichs, Steven H.

APPLICANT: Henry, Travis

APPLICANT: Board of Regents of the University of Nebraska

TITLE OF INVENTION: Materials and Methods for Molecular

TITLE OF INVENTION: Detection of Clinically Relevant Pathogenic Fungal Spec

FILE REFERENCE: UNMC 63149

FULE REFERENCE: UNMC 63149

CURRENT APPLICATION NUMBER: US/09/580,797

CURRENT FILING DATE: 2000-05-30

NUMBER OF SEQ ID NOS: 39

SOFTWARE: FASTSEQ for Windows Version 3.0

SEQ ID.NO 35

LENGTH: 597

TYPE: DNA

ORGANISM: Aspergillus fumigatus

US-09-580-797-35
                      õ
                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TOPOLOGY: circular
; MOLECULE TYPE: genomic DNA
; IMMEDIATE SOURCE:
; CLONE: AFUIC11615
US-60-082-300-11599
 B
                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 15
US-09-580-797-35
: Sequence 35, Application US/09580797
: GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                          Query Match
Best Local Similarity
Matches 338; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 76.7%;
Best Local Similarity 92.4%;
Matches 339; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACTTAA 4295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ccggcgtctccaaccttatctttctcaggttgacctcggatcaggttagggatacccgctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tgttgggtcgtcgtccccc-ccccggggggacgggcccgaaaggcagcggcggcaccg-g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                abactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
aactaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                                    aaactttcaacaacggatctcttggttccggcatcgatgaagaacgcagcgaaatgcgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCGGTCCTCGAGCGTATGGGGCCTTTGTCACCTGCTC - - TGTAGGCCCGGCCGGCCGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            76.2%; Score 278.2; DB 22; llarity 92.1%; Pred. No. 4.6e-62; Conservative 0; Mismatches 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 279.8; DB 47; Length 7997; Pred. No. 2.7e-62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                    DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                    Length 597;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6;
                                                                                                          6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3992
                                                       274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        298
                                                                                                            4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4
```

```
Q
                                                                                                                                    õ
                                                                                                                                                                           οy
                                     В
                                                      Ş
                                                                             밁
                                                                                                                  ₽
                                                                                                                                                           망
                                                                             455
                                                                                                                    395
                                                                                                                                                                                121
                    359
                                      513
                                                          299
                                                                                                239
                                                                                                                                        181
          | aacttaa
                                                                                                                                                                     ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                    tgttgggtcgtcgtccccc.ccccgggggacgggcccgaaaggcagcagcggcaccg-g
                                                                                      tccggtcctcgagcgtatggggcttggtcacccgctcgattagggccgggccgggccag
                                                                                                                                                           ctggtattccggggggcatgcctgtccgagcgtcattgctgccctcaagcacggcttgtg
                                                                           tccggtcctcgagcgtatggggctttgtcacctgctc--tgtaggcccggccggccag
                                                                                                                   tgttgggcccccgtccccctctcccgggggacggcccgaaaggcagcggcggcaccgcg
                   365
577
                                       570
                                                         358
                                                                                                298
                                                                            512
                                                                                                                    454
                                                                                                                                        238
                                                                                                                                                            394
```

Search completed: August 22, 2002, 00:39:26 Job time: 13051 sec

```
Gencore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on:
August 21, 2002, 21:32:40; Search time 663.62 Seconds (without alignments)
1479.886 Million cell updates/sec

Title:
Perfect score: 365
Sequence: 1 aaactttcaacaatggatct......gggatacccgctgaacttaa 365
Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
```

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Total number of hits satisfying chosen parameters:

3442222

1721111 seqs, 1345317543 residues

Searched:

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database: Pending_Patents_NA_New:*

1: /cgn2_6/ptodata/2/pna/PCT_NEW_COMB.seq:*

2: /cgn2_6/ptodata/2/pna/US06_NEW_COMB.seq:*

3: /cgn2_6/ptodata/2/pna/US07_NEW_COMB.seq:*

4: /cgn2_6/ptodata/2/pna/US08_NEW_COMB.seq:*

5: /cgn2_6/ptodata/2/pna/US08_NEW_COMB.seq:*

6: /cgn2_6/ptodata/2/pna/US10_NEW_COMB.seq:*

7: /cgn2_6/ptodata/2/pna/US10_NEW_COMB.seq:*

8: /cgn2_6/ptodata/2/pna/US10_NEW_COMB.seq:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

c 25	24	c 23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	ω	N		No.	Result
87	87.6	88.8	90	94.4	94.8	95.4	101.6	107.6	123.2	123.2	143.2	143.2	153.8	153.8	159	162.6	169	184	189.4	206.6	230.4	258.8	284.2	365	Score	
23.8	24.0	24.3		•				29.5	•	•		•	42.1	42.1	43.6	44.5	46.3	50.4	51.9	56.6	63.1	70.9	77.9	100.0	Match	Query
2091	250	1351	1414	343	346	344	336	208	319	310	570	516	523	515	650	536	652	618	641	309	355	364	365	365	Length	
ഗ	J.	7	7	7	7	7	7	7	7	7	ഗ	ഗ	ഗ	S	-	ۍ	_	σ	S	7	7	7	7	7	BB	
US-09-935-625-5545	US-09-975-254-4556	US-10-155-881-6113	-881	US-10-046-955-27	US-10-046-955-25	US-10-046-955-26	US-10-046-955-29	US-10-046-955-1	US-10-046-955-6		US-09-517-790-3	US-09-517-790-2	US-09-517-790-4	US-09-517-790-1	PCT-US02-11769-4	US-09-517-790-5	PCT-US02-11769-2	US-09-766-173C-5	US-09-766-173C-4	US-10-046-955-28	US-10-046-955-4	US-10-046-955-2		US-10-046-955-5	ID	
Sequence 5545, Ap		ì	Sequence 6537, Ap	27,	Sequence 25, Appl		Sequence 29, Appl	Sequence 1, Appli	-	Sequence 7, Appli	-	-		Sequence 1, Appli	Sequence 4, Appli	•	Sequence 2, Appli	•		Sequence 28, Appl		Sequence 2, Appli	-	Sequence 5, Appli	Description	

00	1			C					O				C					C
4 4	ω	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26
81.8	83.4	83.4	83.4	83.4	83.4	83.4	84.2	84.4	84.8	87	87	87	87	87	87	87	87	87
22.4	22.8	22.8	22.8	22.8	22.8	22.8	23.1	23.1	23.2	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
1226	3480	1545	1180	1037	949	835	511	131	1474	4310	2097	2097	2097	2097	2097	2097	2091	2091
œ ~	1 œ	7	7	7	7	7	7	u	7	7	ഗ	υ	u	ഗ	S	G	U	ű
US-60-391-781-664	US-60-391-781-202	US-10-155-881-226	US-10-155-881-2120	US-10-155-881-2313	US-10-155-881-3328	US-10-155-881-4283	US-10-155-881-1757	US-09-975-254-5041	US-10-155-881-2900	US-10-177-253-71	US-09-935-625-26950	US-09-935-625-25913	US-09-935-625-18547	US-09-935-625-17511	US-09-935-625-6116	US-09-935-625-5599	US-09-935-625-25792	US-09-935-625-17457
Seguence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence
664, App	202, App		2120, Ap		3328, Ap		1757, Ap				26950, A	25913, A	18547, A		6116, Ap	•		17457, A

ALIGNMENTS

RESULT

	cagcggcggcaccggtc 240	tgttgggtcgtcgtcccccccccgggggacgggcccgaaaggcagcggcggcaccggtc	181 t	Qy
	ctcaagcccggcttgtg 180 	ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg 	121 c 121 c	₽ 2
		aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc		B 1
	aacqcacattqcqcccc 120	aagtaatgtgaattgcagaattcagtgaatcatcgagtctttg;	61 a	Ş
	acgcagcgaactgcgat 60	aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat	1 2	Db
	acgcagcgaactgcgat 60	aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat	1 - a	Qy
0;	Length 365; Indels 0; Gaps	Query Match 100.0%; Score 365; DB 7; Best Local Similarity 100.0%; Pred. No. 2.8e-90; Matches 365; Conservative 0; Mismatches 0;	Query Match Best Local Matches 36	Ma:
		US-10-046-955-5	0-046-9	öS-1
		DNA	TYPE: DNA	٠.
		: 365	LENGTH: 365	••
			SEQ ID NO 5	; SE(
		SOFTWARE: PatentIn Ver. 2.0	SOFTWARE:	
		FILING DATE: 1997-02	PRIOR FI	· ·
		APPLICATION NUMBER: US 60/045,400		
		FILING DATE: 1998-05-01	PRIOR FI	
		APPLICATION NUMBER: PCT/US98/08926		
		FILING DATE: 2000-06-27		
		CONNENT FILLING DAILS. 2002 OF 04	CONSENT	
		CURRENT APPLICATION NUMBER: US/10/046,955	JRRENT	 2 2
		FILE REFERENCE: 6395-62064	ILE REF	٠. اعا
		Filamentous Fungi	ITLE OF	T
	Aspergillus Species and	NVENTION: Nucleic Acids for Detecting	TITLE OF	 :::
		NT: Algorevich, Lilland	APPLICANT:	
			APPLICANT:	· ·
			APPLICANT:	
			APPLICANT:	; AI
nte	of Health and Human Services, Centers	Secretary of the Department	APPLICANT:	; Al
d d	America, as Represented by the	rnment of the United	APPLICANT:	. ·
		GENERAL INFORMATION:	VERAL II	GEN
		Securence 5. Application [S/10046955	05-10-040-555-1	. CD.
			7-016-01	10000

```
ş
                                                                                                                   밁
                                                                                                                                           Ŷ
                                                                                                                                                                             Вþ
                                                                                                                                                                                                          ő
                        á
                                                       В
                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                                                                 ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 2
US-10-046-955-3
; Sequence 3, Application US/10046955
; General Information:
APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for APPLICANT: Control and Prevention
APPLICANT: Morrison, Christine J.
APPLICANT: Reiss, Errol
APPLICANT: Reiss, Errol
APPLICANT: Aidorevich, Liliana
APPLICANT: Choi, Jong Soo
TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Aspergillus niger US-10-046-955-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR FILING DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEO ID NOS: 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: Patentin Ver. 2.0 SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
Matches 335; Conserv
                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 36
TYPE: DNA
                           299
                                                                                    239
                                                                                                                   181
                                                                                                                                                  181
                                                                                                                                                                               121
                                                                                                                                                                                                            121
                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                     ctggtattccggggggcatgcctgtccgagcgtcattgctgccctcaagcacggcttgtg
                                                                                                                                                                                                                                                                                                             | aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
 ccggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggataccgctt
                                                                ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                             tccgatcctcgagcgtatggggctttgtcacctgctc--tgtaggcccggccggcgcctg
                                                                                                         tgttgggtcgccgtccccctctcccgggggacgggcccgaaaggcagcggcggcaccgcg
                                                                                                                         tgttgggtcgtcgtcccc-ccccggggggacgggcccgaaaggcagcggcaggggcaccg-g
                                                                                                                                                                                                                                                 aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                 aactaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                                                                                                                                                                                                                                                                             aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaaatgcgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99C9tCtccaaccttatctttctcaggttgacctcggatcaggtagggatacccgctgaa 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    365
                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                              77.98;
91.38;
                                                                                                                                                                                                                                                                                                                                                           Score 284.2; DB 7; Length 365;
Pred. No. 3.4e-68;
0; Mismatches 28; Indels 4
                                                                                                                                                                                                                                                                                                                                                         Gaps
                   358
                                                                                                           240
                                                                                                                                         238
                                                                                                                                                                        180
                                                                                                                                                                                                    180
                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                         ω,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ď
US-10-046-955-4
```

```
APPLICANT: Choi, Jong Soo

ITITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Specific Price OF INVENTION: Nucleic Acids for Detecting Aspergillus Specific Price OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064

CURRENT APPLICATION NUMBER: US/10/046,955

CURRENT FILING DATE: 2002-06-04

PRIOR APPLICATION NUMBER: US 09/423,233

PRIOR FILING DATE: 2000-06-27

PRIOR APPLICATION NUMBER: PCT/US98/08926

PRIOR APPLICATION NUMBER: US 60/045,400

PRIOR APPLICATION NUMBER: US 60/0423,233

PRIOR APPLICATION NUMBER: US 60/0423,233

PRIOR APPLICATION
                                                             Ş
                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2, Application US/10046955
GENERAL INFORMATION:
APPLICANT: The Government of the United St
APPLICANT: Secretary of the Department of
APPLICANT: Control and Prevention
APPLICANT: Morrison, Christine J.
APPLICANT: Reiss, Errol
APPLICANT: Reiss, Errol
APPLICANT: Aidorevich, Liliana
                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-046-955-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity Matches 333; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
      356
                                                          358 gaacttaa 365
                                                                                                                                           298 gccggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgct 357
                                                                                                                                                                                                                           241 gtccggtcctcgagcgtatggggcttg.--tcacctgctctgtaggcccggccggcgcca
                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        359 aacttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60
                                                                                                          gccgac--acccaactttatttttctaaggttgacctcggatcaggtagggatacccgct
gaacttaa
                                                                                                                                                                                                                                                                  gtgttgggcccccgtcccctctcccgggggacgggcccgaaaggcagcggcggcaccgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ctggtattccggggggcatgcctgtccgagcgtcattgctgcccatcaagcacggcttgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ctggcattccgggggggcatgcctgtccgagcgtcattgctgccc-tcaagcccggcttgt 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaaatgcgat
                                                                                                                                                                                                                                                                                                                                                                                       9t9tt999tc9tcgtccccc-ccccg9g9gacgggcccgaaaggcagcggcggcaccg-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      aactaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ccgacgttatccaaccatttttttccaggttgacctcggatcaggtagggatacccgctg 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
   363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               70.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 258.8; DB Pred. No. 3e-61; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              States of America, as Represented by the of Health and Human Services, Centers fo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Species
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                     297
                                                                                                                                                                                                                                                                                                   297
                                                                                                                                                                                                                                                                                                                                                                                                                          237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ioi
```

```
; SEQ ID NO 4
; LENCTH: 355
; TYPE: DNA
; ORCANISM: Aspergillus terreus
US-10-046-955-4
                                                                                                                                                                                                                                                                                                                                                                                                     ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                           RESULT 5
US-10-046-955-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR FILING DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEQ ID NOS: 61
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 312; Conserv
                                                                                                                                                                                                                                 Sequence 28, Application US/10046955 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 4, Application US/10046955 GENERAL INFORMATION:
                                                                                                   APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for Di. APPLICANT: Control and Prevention APPLICANT: Morrison, Christine J. APPLICANT: Reiss, Errol APPLICANT: Reiss, Errol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for APPLICANT: Control and Prevention APPLICANT: Morrison, Christine J. APPLICANT: Reiss, Errol Relss, Errol APPLICANT: Aldorevich, Liliana
                  APPLICANT: Aidorevich, Liliana
APPLICANT: Choi, Jong Soo
TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and
TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Choi, Jong Soo
TITLE OF INVENTION: Nucleic Acids for Detecting
TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
CURRENT APPLICATION NUMBER: US/10/046,955
                                                                                                                                                                                                                                                                                                                                                               300 gccgaacgcatttatttgcaacttgtttttttttccaggttgacctcggatcaggt 355
                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ب
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ctggcattccggg-gggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgt 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             agccggcgtctcca-----accttatctttctcaggttgacctcggatcaggt 344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aactaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                cgtccggtcctcgagcgtatggggcttcgtcttccgctc-cgtaggcccggccggcgccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ctggtattccgggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gtgttgggccctcgtccccggctcccgggggacgggcccgaaaggcagcggcggcaccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63.1%;
nilarity 87.6%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 230.4; DB 7;
Pred. NO. 1.7e-53;
0; Mismatches 31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Aspergillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Species
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŭ
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; ORGANISM: Penicillium notatum US-10-046-955-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                          US-09-766-173C-4
                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-766-173C-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR FILING DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEQ ID NOS: 61
                                                                                                                                      NUMBER OF SEQ ID NOS: 13
SOFTWARE: FASTSEQ for Windows Version SEQ ID NO 4
LENGTH: 641
                                                                                                                                                                                                                                                                                                                                                                                     Sequence 4, Application US/09766173C GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 28
LENGTH: 309
TYPE: DNA
   Matches
                    Best Local Similarity
                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 274;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                        CURRENT FILING DATE: 2001-01-22
PRIOR APPLICATION NUMBER: PCT/US01/01735
PRIOR FILING DATE: 2001-01-19
PRIOR APPLICATION NUMBER: 60/177,013
PRIOR FILING DATE: 2000-01-19
                                                                                                                                                                                                                                                                                  FILE REFERENCE: Oregon 99-09
CURRENT APPLICATION NUMBER: US/09/766,173C
CURRENT FILING DATE: 2001-01-22
                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Materials and Methods For Detection TITLE OF INVENTION: Pathogenic Guignardia Citricarpa
                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Carroll, George C.
                                                                                                     TYPE: DNA
ORGANISM: Guignardia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           172 cggcttgtgtgttgggtcgtcgtcccccccccgggggacggggcccgaaaggcagcggcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    52 aactgcgataagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcaca 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 aaatgcgatacgtaatgtgaattgca-aattcagtgaatcatcgagtctttgaacgcaca 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 acccgctgaacttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ttgcgccccctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcc 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                acccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ttgcgccccctggtattccggggggcatgcctgtccgagcgtcattgctgccctcaagca 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ggcgccagccggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggat 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gcaccgcgtccggtcctcgagcgtatgggctttgtcacccgctc--tgtaggcccggcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ggcgcttgccgatcaacccaaattt----ttatccaggttgacctcggatcaggtagggat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cggcttgtgtgttgggccccgtcctccgatcccgggggacgggcccgaaaggcagcggcg
   272;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
 Conservative
                  51.9%;
73.7%;
                                                                                                        Citricarpa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        56.6%;
87.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  309
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 206.6; DB 7; Pred. No. 5.4e-47;
                    Score 189.4; DB 5;
Pred. No. 3.1e-42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           34;
 66;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 309;
 Indels 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7;
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        237
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4
```

Ş

1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat 60

```
APPLICANT: CATECIL, George C.

APPLICANT: CATECIL, George C.

TITLE OF INVENTION: Materials and Methods For Detection of ITILE OF INVENTION: Pathogenic Guignardia Citricarpa FILE REFERRICE: Oregon 99-09

CURRENT APPLICATION NUMBER: US/09/766,173C

CURRENT FILING DATE: 2001-01-22

PRIOR APPLICATION NUMBER: PCT/US01/01735

PRIOR FILING DATE: 2001-01-19

PRIOR FILING DATE: 2001-01-19

PRIOR PPLICATION NUMBER: 60/177,013

PRIOR FILING DATE: 2000-01-19

NUMBER OF SEG ID NOS: 13

SOFTWARE: FastSEQ for Windows Version 3.0

SEQ ID NO 5

LENGTH: 618
               õ
                                            밁
                                                                   ð
                                                                                                    В
                                                                                                                            Ş
                                                                                                                                                            밁
                                                                                                                                                                                      ð
                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 7
US-09-766-173C-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                     : TYPE: DNA
; ORGANISM: Guignardia Citricarpa
US-09-766-173C-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 5, Application US/09766173C GENERAL INFORMATION:
                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 266; Conserv
                241
                                             442
                                                                         181
                                                                                                      382
                                                                                                                                 121
                                                                                                                                                              322
                                                                                                                                                                                                                      262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                267
                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                   ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagccccggcttgtg 180
                                                                                                                                                                             aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tgaacttaa 628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tgaacttaa
||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagccccggcttgtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 attgg-----gcaacgtccgctgccggacgtgccttgaagacctcggcgacggcgtcc
                                                                                                                                                            aagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcacattgcgccct 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     caatcgaccttcggtcactatttttccaaggttgacctcggatcaggtagggatacccgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --ccggcgtctccaaccttatctttctcaggtttgacctcggatcaggtagggatacccgc 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    attgg-----gcgacgtccgctgccggacgcgcctggaagacctcggcgacggcgtct 499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tgttgggtcgtcgtcccccccccggggggacgggcccgaaaggcagcggcggcaccggtc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ctggcattccggggggcatgcctgttcgagcgtcatttcaaccctcaagctctgcttggt 446
                                                                                                    ctggtattccggagggcatgcctgttcgagcgtcatttcaaccctcaagctctgcttggt 441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cagcctcgagcgtagtagtaaaatatctcgctttggaggagggggggctggccgccgga
                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                           50.4%;
                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                            Score 184; DB 5; Length 618; Pred. No. 9.2e-41;
                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                90; Indels
                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              326
                                                                                                                                                                                                                                                                             2
```

```
GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: Manker, Denise

APPLICANT: Manker, Denise

TITLE OF INVENTION: USE

FILE REFERENCE: AQ 2019.40

CURRENT APPLICATION NUMBER: PCT/US02/11769

CURRENT FILING DATE: 2002-04-11

PRIOR APPLICATION NUMBER: 60/283,902

PRIOR FILING DATE: 2002-03-11

PRIOR APPLICATION NUMBER: 60/283,072

PRIOR FILING DATE: 2001-04-16

NUMBER OF SEQ ID NOS: 4

SOFTMARE: FASLSEQ for Windows Version 4.0

SEQ ID NO 2
                                                        밁
                                                                                   Qy
                                                                                                               밁
                                                                                                                                        Š
                                                                                                                                                                       밁
                                                                                                                                                                                                á
                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 652
; TYPE: DNA
; ORGANISM: Muscodor albus
PCT-US02-11769-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 8
PCT-US02-11769-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 2,
                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                   301
                                                                                                               516
                                                                                                                                                                       458
                                                                                                                                                                                                                                 398
                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                              278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  495
626 cttaa
                            361 cttaa 365
                                                                                                                                           241
                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                       1 aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
                                                                                                                                                                                                                                           ctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtg
                                                                                                                                                                                                                                                                                                  aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             actt 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ctgccgtaaaaccccctatatcaaaggttgacctcggatcaggtaggaatacccgctgaa
                                                                                                            ctcactctaggcgtagtaaatctatctcgcctctgtagtggttccggc-----cc
                                                                                                                                        ag--cgttgggagcctacggcactgcccgtagctccctaaagtgattggcggagttggtt
                                                                                                                                                                                    tgttgggtcgtcgtcccccccccggggggcggcccgaaaggcagcggcgcggtc
                                                                                                                                                                                                                           ttagcattctagtgggcatgcctgttcgagcgtcatttcaccacttaagccctgttgctt
                                                                                                                                                                                                                                                                                   aagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcacattgcgccca
                                                                                                                                                                                                                                                                                                                                          aaactttcaacaacggatctcttggttctggcatcgatgaagaacgcagcgaaatgcgat 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 actt 618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tagcctcgagcgtagtagtaaaatatctcgctttggagtgctgggcgacggccgccggac
                                                                                 ggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgctgaa
                                                                                                                                                                                                                                                                                                                                                                                                    258;
                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Application PC/TUS0211769
 630
                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                46.38;
                                                                                                                                                                                                                                                                                                                                                                                                 Score 169; DB 1; L
Pred. No. 1.2e-36;
0; Mismatches 95;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        METHODS
                                                                                                                                                                                                                                                                                                                                                                                                                            Length 652;
                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QF
                                                                                                                                                                                                                                                                                                                                                                                                  12;
                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                   360
                                                                                                                                        300
                                                                                                                                                                                                  240
                                                                                                                                                                                                                              457
                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         614
                                                                                                               565
                                                                                                                                                                       515
                                                        625
                                                                                                                                                                                                                                                                                     397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                554
                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    359
                                                                                                                                                                                                                                                                                                                                                                                                  <u>ب</u>
```

RESULT 9
US-09-517-790-5
; Sequence 5, Application US/09517790
; GENERAL INFORMATION:
; APPLICANT: White, Jr., James F

Ę

```
APPLICANT: Strobel, Gary
APPLICANT: Manker, Denise
TITLE OF INVENTION: NOVEL ENDOPHYTIC FUNGI AND METHODS OF
TITLE OF INVENTION: USE
FILE REFERENCE: AO 2019-40
CURRENT APPLICATION NUMBER: PCT/US02/11769
CURRENT FILING DATE: 2002-04-11
PRIOR APPLICATION NUMBER: 60/283,902
PRIOR FILING DATE: 2002-03-11
PRIOR APPLICATION NUMBER: 60/363,072
PRIOR APPLICATION NUMBER: 60/363,072
PRIOR FILING DATE: 2001-04-16
NUMBER OF SEQ ID NOS: 4
SOFTWARE: FASISEQ for Windows Version 4.0
SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TYPE: DNA
; ORGANISM: Ampelomyces humuli
US-09-517-790-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              οy
 PCT-
                                                                                                                                                                                                                                                                                                                                       RESULT 10
PCT-US02-11769-4
                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 44.5%;
Best Local Similarity 71.5%;
Matches 261; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 5
LENGTH: 536
                                                                                                                                                                                                                                                                                                     Sequence 4, Application PC/TUS0211769 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/09/517,790
CURRENT FILING DATE: 2000-03-02
PRIOR APPLICATION NUMBER: US 60/123,099
PRIOR FILING DATE: 1999-03-05
NUMBER OF SEQ ID NOS: 5
SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: Use of Phoma glomerata TITLE OF INVENTION: Diseases in Plants FILE REFERENCE: RU-0093
TYPE: DNA
ORGANISM: Muscodor
-US02-11769-4
                                                   LENGTH: 650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 122
                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 230 agtagtgtgaattgcagaattcagtgaatcatcgaatctttgaacgcacattgcgcccct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtgt 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 agtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgccccc 121
                                                                                                                                                                                                                                                                                                                                                                                                                                             cttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgctgaa 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cttaa 520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tggcagccggcgtattgatttcggagcgcagtacatctcgcgctttgcactcataacgac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gttgggtgtttgtctcgcctctgcgtgta------gactcgcctcaaaacaat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             grtgggtcgtcgtcccccccccgggggacgggcccgaaaggcagcggcggcaccggtcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gacgtccaaaagtacatttttacactcttgacctcggatcaggtagggatacccgctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tggtattccatggggcatgcctgttcgagcgtcatttgtaccttcaagctctgcttg-gt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 162.6; DB 5;
Pred. No. 6.3e-35;
0; Mismatches 89;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hyperparasite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the Biocontrol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of
```

```
RESULT 11
US-09-517-790-1
Sequence 1, Application US/09517790
GENERAL INFORMATION:
APPLICANT: White, Jr., James F
TITLE OF INVENTION: Use of Phoma glomerata as a Hyperparasite
TITLE OF INVENTION: Diseases in Plants
FILE REFERENCE: RU-0093
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                     ş
                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                         ; TYPE: DNA
; ORGANISM: Phomo
US-09-517-790-1
                                                                                                                   В
                                                                                                                                            ρ
                            Ş
                                                         밁
                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 178
                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/09/517,790
CURRENT FILING DATE: 2000-03-02
PRIOR APPLICATION NUMBER: US 60/123,099
PRIOR FILING DATE: 1999-03-05
NUMBER OF SEQ ID NOS: 5
SOFTWARE: Patentin version 3.1
SEQ ID NO 1
LENGTH: 515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity Matches 252; Conservat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          338
                                                                                        122
                                                                                                                     247
                                                                                                                                                                            187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               625 cttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                           307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361 cttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 aagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgcccc 120
                                                                                                                                                                                                                                 y Match 42.1%;
Local Similarity 88.6%;
hes 178; Conservative
                                                                                                                                                62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               l aaactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aaactttcaacaacggatctcttggttctggcatcgatgaagaacgcagcgaaatgcgat 337
                                                                                                                                                                       aagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcacattgcgccca
               gttgggtcgtcgtcccccc
                                                                         tggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtgt 181
                                                                                                                                agtaatgtgaattgcagaattcagtgaatccatcgagtctttgaacgcacattgcgccccc 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ggcgtctccaaccttatctttctcaggttgacctcggatcaggtagggatacccgctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ctcactctaggcgtagtaaatctatctcgcctctgtagtggttccggc-----cc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gttgggtgtttgtctcgcctc
                                                                                                                agtagtgtgaattgcagaattcagtgaatcatcgaatctttgaacgcacattgcgcccct 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ctgccgtaaaaccccctatatcaaaggttgacctcggatcaggtaggaatacccgctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ttagcgttgggagcctacggcactgcccgtagctccctaaagtgattggcggagttggtt 514
                                                        tggtattccatggggcatgcctgttcgagcgtcatttgtaccttcaagctctgcttg-gt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         43.6%;
 386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 159; DB 1; L
pred. No. 6.3e-34;
0; Mismatches 100;
                                                                                                                                                                                                                                   Score 153.8; DB 5;
Pred. No. 1.6e-32;
0; Mismatches 22;
                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                515;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13;
                                                                                                                                                                                                                                    ب.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in the Biocontrol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                           365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'n
                                                                                                                                                                                                                                    1;
```

```
; TYPE: DNA ; ORGANISM: Ampelomyces US-09-517-790-2
     밁
                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 13
US-09-517-790-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; LENGTH: 523
; TYPE: DNA
; ORGANISM: Phomo glomerata
US-09-517-790-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; Sequence 4, Application US/09517790
; GENERAL INFORMATION:
; APPLICANT: White, Jr., James F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 12
US-09-517-790-4
                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 2, Application US/09517790 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: Use of Phoma glomerata as a Hyperparasite in the Biocontrol of TITLE OF INVENTION: Diseases in Plants
FILE REFERENCE: RU-0093
CURRENT APPLICATION NUMBER: US/09/517,790
CURRENT FILING DATE: 2000-03-02
PRIOR APPLICATION NUMBER: US 60/123,099
PRIOR FILING DATE: 1999-03-05
NUMBER OF SEQ ID NOS: 5
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
                                                                        Best Local
Matches 1
                                                                                                                                                                                                                               SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 42.18;
Best Local Similarity 88.68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 178;
                                                                                                                                                                                                                                            CURRENT FILING DATE: 2000-03-02
PRIOR APPLICATION NUMBER: US 60/123,099
PRIOR FILING DATE: 1999-03-05
NUMBER OF SEQ ID NOS: 5
SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Use of Phoma glomerata TITLE OF INVENTION: Diseases in Plants FILE REFERENCE: RU-0093 CURRENT APPLICATION NUMBER: US/09/517,790 CURRENT FILING DATE: 2000-03-02
                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: White, Jr., James F
                                                                                                                                                                                                             LENGTH: 516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               62
                                      N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N
                  aactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgata 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           agtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcacattgcgccccc 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgata 61
aactttcaacaacagatctcttggttctggcatcgatgaagaacgcagcgaaatgcgata 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gttgggtgtttgtctcgcctc 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gttgggtcgtcgtccccccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtgt 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aactttcaacaacggatctcttggttctggcatcgatgaagaacgcagcgaaatgcgata 253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tggtattccatggggcatgcctgttcgagcgtcatttgtaccttcaagctctgcttg-gt 372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            agtagtgtgaattgcagaattcagtgaatcatcgaatctttgaacgcacattgcgcccct
                                                                        al Similarity
183; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                      Conservative
                                                                                        39.2%;
                                                                                                                                                                           quisqualis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        202
                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 153.8; DB 5
Pred. No. 1.6e-32;
                                                                                        Score 143.2; DB 5; Pred. No. 1.3e-29;
                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                          as a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 5;
                                                                         48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22;
                                                                                                                                                                                                                                                                                                                                                                                            Hyperparasite
                                                                        Indels
                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                           516;
                                                                                                                                                                                                                                                                                                                                                                                            in
                                                                                                                                                                                                                                                                                                                                                                                          the Biocontrol of
                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            313
                                                                        1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ę
```

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; TYPE: DNA; ORGANISM: Ampelomyces US-09-517-790-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                  US-10-046-955-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-517-790-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
                                                                                                                                                                                                                Sequence 7, Application US/10046955
GENERAL INFORMATION:
APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for APPLICANT: Control and Prevention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Simi
Matches 183;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: White, Jr., James F
TITLE OF INVENTION: Use of Phoma glomerata as a Hyperparasite in the Biocontrol
TITLE OF INVENTION: Diseases in Plants
FILE REFERENCE: RU-0093
CURRENT FILING DATE: 2000-03-02
CURRENT FILING DATE: 2000-03-02
PRIOR APPLICATION NUMBER: US 60/123,099
PRIOR APPLICATION NUMBER: US 60/123,099
PRIOR FILING DATE: 1999-03-05
NUMBER OF SEQ ID NOS: 5
SOFTWARE: Patentin version 3.1
SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 3, Applicat GENERAL INFORMATION:
APPLICANT: Aidorevich, Liliana
APPLICANT: Choi, Jong Soo
TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species
TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 570
                                                                                                                                                                                                                                                                                                                                                                                                                    423
                                                                                                                                                                                                                                                                                                                                                                                                                                                           182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               304 agtagtgtgaattgcagaattcagtgaatcatcgaatctttgaacgcacattgcgcccct 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 244 aactttcaacaacggatctcttggttctggcatcgatgaagaacgcagcgaaatgcgata 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            381 ttrggtgcctgtccctgttctttcttggactcaccttaaagcaattggcagc 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     62 agtaatgtgaattgcagaattcagtgaatccatcgagtctttgaacgcacattgcgccccc 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 aactttcaacaatggatctcttggttccggcatcgatgaagaacgcagcgaactgcgata 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ttgggtgcctgtccttgttctctcttggactcaccttaaagcaattggcagc
                                                                                                                                                                                                                                                                                                                                                                                                                                     gttgggtcgtcgtcccccccccggggggcgggccggaaaggcagcggcggc 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tggtattccatggggcatgtctgttcgagcgtcatttgt-acctcaagctatgcttggtg 422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gttgggtcgtcgtccccccccggggggacgggcccgaaaggcagccggcggc 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtgt 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcccggcttgtgt 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tggtattccatggggcatgcctgttcgagcgtcatttgt-acctcaagctatgcttggtg 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Application US/09517790
                                                                                                                                                                                    Reiss, Errol
                                                                                                                                                                                                        Morrison, Christine J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  39.2%;
78.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     quisqualis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 143.2; DB 5
Pred. No. 1.3e-29;
0; Mismatches 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 570;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                    474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ۲.
```

0

```
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR FILING DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEQ ID NOS: 61
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 7
LENGTH: 310
TYPE: DNA
ORGANISM: Fusarium moniliforme
US-10-046-955-7
                  Ş
                                                В
                                                                οy
                                                                                           В
                                                                                                                Ş
                                                                                                                                       B S
                                                                                                                                                                                        В
                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                              Ŷ
                                                                                                                                                                                                                                                                                        Ouery Match 33.8%;
Best Local Similarity 66.5%;
Matches 210; Conservative
                                                                                                                                                                                        181 gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgc-----aactggtacg
                                                                                                                                           121 cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg 180
                                                                                                                                                        170 cccggcttgtgtgttgggtcgtcgtcccccccccgggggacgggcccgaaaggcagcgg
                                                235 cggcgcggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaa
                                                                        290
                                                                                                                        230
                                                                                                                                                                                                                                       gggcgccagccggcgtctccaaccttatctttctcaggttgacctcggatcaggtaggga 349
                                                                                                            Score 123.2; DB 7; Length 310;
Pred. No. 3.4e-24;
0; Mismatches 98; Indels 8
                                                                                                                                                                                                                                                                                         , 8
                                                                                                                                                                                                                                                                                         Gaps
                                                                                             234
                                                                                                                                                                    229
                                                                                                                                                                                                                                                                                         2;
```

Search completed: August 22, 2002, 00:50:48 Job time: $11888\ sec$

```
Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OM nucleic ·
                  Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Run on:
      Ö.
                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
    Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length: 0
length: 2000000000
   Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-046-955-6
319
1 gaaaatgcgataag
                                                                                                                10:
111:
112:
113:
114:
115:
116:
117:
117:
117:
119:
119:
119:
220:
221:
221:
221:
222:
223:
233:
330:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     August 21, 2002, 22:09:44; Search time 2238.68 Seconds (without alignments) 2981.920 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GenEmbl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1797656 seqs, 10463268293 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gaaaatgcgataagtaatgt.....ggaatacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                       gb_pl:*
                                                                                                                                                                                                                                                                                                                                                                                                                               gb_pat:*
gb_ph:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                gb_in:*
                                                                                                              em_htg_inv:*
em_htg_other:*
em_htgo_inv:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gb_ba:*
                                                                                                                                                           em_sts:*
em_un:*
em_vi:*
                                                                                                                                                                                                 em_fun: *
em_in: *
em_in: *
em_on: *
em_ov: *
em_ov: *
em_ph: *
em_pl: *
                                                                                                                                                                                                                                                                                                                                              gb_un:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                      gb_ov:*
                                                                                                                                                                                                                                                                                                                                                                    gb_sy:*
                                                                                                                                                                                                                                                                                                                                  em_ba:*
                                                                                                                                                                                                                                                                                                                                                                               gb_sts:*
                                                                                                                                                                                                                                                                                                                                                                                            gb_ro:*
      ID
                                          SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3595312
Description
```

							ω.	7	٠.	٠.	_				٦	_	-		٠,	٠,	_	~			_	2	_				`) N			2	.,	-		2			
6	σ	0	9	6	9	9	9	9	6	6	262.2	9	9	9	263	265	265		9		268		269.2	7		7.	7	2	7	279	279	9	0	١.,	288.2	88	9	٠.	9	98	9	308	319
81.9	81.9				1	2	2	۲.	2	2		2	۲.	۲.	2	ω.	ω.	ω.	ω.				•			٥.		٥.	<u>.</u>	. 7	٦.	٦:	ع د	.0	90.3		.~	ω.	ω.	ω.	ω.		
- 1	17	m	ťл	550	~	in	~	478	478	478	~	7	~	4	4	ιn	4	4	\mathbf{L}	9	4	4	4	4	4	S	CJ.	S	S	ω,	200	Dι	9	•	548	•	4	4	σ	S	C1	0	\mathbf{r}
8	æ	æ	œ	8	æ	œ	œ	8	œ	8	8	8	8	8	œ	80	œ	œ	œ	œ	۵۵	œ	œ	æ	8	æ	œ	80	œ	œ	x	x 0 c	α	ο α	8	8	æ	œ	8	œ	8	œ	œ
OITSRG	FSOITSRGNA	F13014	AF178403	7840	5047	468	046	046	9	046	5046	F150	3280	NECITS	783	F17842	CITS	\mathbf{H}	43776	F13014	17840	F17839	E	7840	C	17840	17840	F17	F17842	44056	15046	AF150466	EXITS	841	F1784	7841	7839	17839	12910	F17840	F17839	165	1792
2 Fusarium s	63	0 Nectr	78403 Fus	8400 Fusar	50475 Nectria	684	0464 Nectr	50463 Nectria	2	50461 Nectria	6	50459 Nectr	1 NE	6 Nectria ha	78399	17842	620 Nectria ha	8410	37761 Fungal 1	301	78404	783	78416 Nectria	78409 FU	619	78408 F	178407 Fusari	78411	78422 Fusarium	440567 Nectria	50467 Nectria	2 2	3002/ NeOCO	78412 Neocosn	178402	178413	7839	8397 Fusarium	04 Nectria	8401 Nectria	8394 Nectr	874 Nectria	117921 Nectria

444444 775 - 776 - 777 -

JOURNAL REFERENCE AUTHORS TITLE ACCESSION VERSION KEYWORDS SOURCE ORGANISM RESULT AF117921 DEFINITION REFERENCE AUTHORS TITLE JOURNAL Abstr. Gen. Meet. Am. Soc. Microbiol. 98, C 2 (bases 1 to 319) Choi,J.S., Westerman,J.M. and Morrison,C.J. Nectria haematococca Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes; Hypocreales; Nectriaceae; Nectria. 1 (bases 1 to 319) Choi,J.S., Westerman,J.M. and Morrison,C.J. Rapid differentiation of filamentous fungi using species-specific AF117921 319 bp DNA linear PLN 17-JUN-2000 Nectria haematococca 5.8S ribosomal RNA gene, partial sequence; internal transcribed spacer 2, complete sequence; and 28S ribosomal RNA gene, partial sequence. AF117921 AF117921.1 GI:8570107 Submitted (09-SEP-1998) DBMD, CDC, 1600 Clifton Rd., Atlanta, GA 30333, USA Direct Submission DNA probes Nectria haematococca. Am. Soc. Microbiol. 98, C288 (1998)

LOCUS

ALIGNMENTS

```
JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                      ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                           RESULT
AF165874
                                                                                                                                                                                                                                                                                                                                                                                                                                          ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ŷ
                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                    FEATURES
                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                rocus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cccccgggcctggcgttggggatcggcggaagcccctgcggggcacaacgccgtccccca 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cattgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcagg 120
                                                                                                                                                                                                                                                                                                                                                                                                                      GAGCGGCGCGCCACGCCGTAAAACACCCCAACTTCTGAATGTTGACCTCGAATCAGGTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                 gagcggcgcggccacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtag
                                                       2 (bases 1 to 509)
Ifwen, P.C., Henry, T. and Hinrichs, S.H.
Direct Submission
Submitted (07-JUL-1999) Pathology and Microbiology, University of
Nebraska Medical Center, 986485 Nebraska Medical Center, Omaha, NE
                                                                                                                                                                                                                                                              AF165874 509 bp DNA linear F Nectria haematococca internal transcribed spacer 1, 5 RNA gene and internal transcribed spacer 2, complete 285 ribosomal RNA gene, partial sequence.

AF165874 FF665874 FF665874
                                                                                                                                       Hypocreales; Nectriaceae; Nectria.

(bases 1 to 509)

Iwen, P.C., Henry, T. and Hinrichs, S.H.
Sequence analysis of the internal transcribed
Fusarium species most commonly associated with
                                                                                                                   Unpublished
                                                                                                                                                                                                  Nectria haematococca
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
                                                68198-6495, USA
                                                                                                                                                                                                                              Nectria
                                                                                                                                                                                                                                                     AF165874.1 GI:5524731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        77
                                                                                                                                                                                                                              haematococca.
/organism="Nectria haematococca'
/strain="ATCC62877"
                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /product="internal transcribed 273...>319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /product="28S ribosomal RNA"
96 c 84 g 62 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /product="5.8S ribosomal RNA"
160. .272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism∞"Nectria haematococca"
/db_xref∞"taxon:140110"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
1. .319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 319; DB 8; Pred. No. 1.1e-77;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          spacer
                                                                                                                                           with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                         spacer regions of
h human invasive
                                                                                                                                                                                                     Sordariomycetes;
                                                                                                                                                                                                                                                                                               PLN 18-JUL-1999
5.8S ribosomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                            ₽
                                                                                                                                                                                                                                                                                                                                                                                                                  ΩV
                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                      LOCUS
```

```
REFERENCE
AUTHORS
TITLE
JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                     RESULT
AF178394
                                                                                                                                                                                                                                  KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                 FEATURES
                                                                                                                                                                                                                                                                               VERSION
                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                      502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            geggegegecacgeegtaaaacacecaacttetgaatgttgacetegaatcaggtagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTACAACCCTCAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATACCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  atacccgc 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCGGGCCTGGCGTTGGGGGATCGGCGGAAGCCCCCTGCGGGCACAACGCCGTCCCCCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | CCC9999CCT99C9TT9999aTC99C99aagccCCCt9C999CacaaagcCC9TCCCCcaaa 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA 261
                                                                                                                                   1 (bases 1 to 550)
O'Donnell,K.
Molecular phylogeny of t
Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               308;
                     Direct Submission
Submitted (18-AUG-1999) Microbial Properties Research, NCAUR, USDA,
ARS, 1815 N. University St., Peoria, IL 61604, USA
Location/Qualifiers
1. 550
                                                                                                       2 (bases 1 to 550)
O'Donnell, K.
                                                                                                                                                                                    Nectria haematococca mpIV.
Nectria haematococca mpIV
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
                                                                                                                                                                                                                                                                                                                       AFT/8394 PIN 20-DEC-2001 NA Linear PLN 20-DEC-2001 Nectria haematococca mpIV strain NRRL22163 185 ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.85 ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and 285 gene, and internal transcribed spacer 2, complete sequence; and 285
                                                                                                                                                                                                                                                                              AF178394.1 GI:10180235
                                                                                                                                                                                                                                                                                                 AF178394
                                                                                                                                                                                                                                                                                                           ribosomal RNA gene, partial sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
/organism="Nectria haematococca mpIV"
/strain="NRRL22163"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product="internal transcribed
151. .307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product="internal transcribed
481. .>509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product="5.8S 308. .480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /db_xref="ATCC:62877"
/db_xref="taxon:140110"
/note="anamorph: Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product="28S ribosomal RNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="ITS1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       154 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          96.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 308; DB 8; Pred. No. 1.3e-74;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    122 g
                                                                                                                                                      the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ribosomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                     Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       103 €
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           solani"
                                                                                                                                                   solani species complex
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               spacer 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                 Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
```

```
JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
AF178401
LOCUS
                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                     SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_RNA
                               misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity hes 312; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                atacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gcggcgcggccacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATACCCGCTGAACTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TACAGTGGCGGTCCCGCCGCAGCTTCCATTGCGTAGTAGCTAACACCTCGCAACTGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                  AF178401 STIDE-2 DNA Ilinear PLN 20-DEC-2 Nectria haematococca mpIV strain NRRL22277 18s ribosomal RNA gen partial sequence; internal transcribed spacer 1, 5.8s ribosomal gene, and internal transcribed spacer 2, complete sequence; and ribosomal RNA gene, partial sequence.

AF178401 GI:10180242
                                                                                                                                          Submitted (18-AUG-1999) Microbial Properties Research, ARS, 1815 N. University St., Peoria, IL 61604, USA Location/Qualifiers
                                                                                                                                                                                         O'Donnell,K.
Direct Submission
                                                                                                                                                                                                                                                                                                                      Nectria haematococca mpIV
Nectria haematococca mpIV
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
                                                                                                                                                                                                                                      Unpublished
                                                                                                                                                                                                                                                     Molecular phylogeny of the
                                                                                                                                                                                                                                                                       O'Donnell, K.
                                                                                                                                                                                                                                                                                                     Hypocreales; Nectriaceae; Nectria.
                                                                                                                                                                                                                       (bases 1 to 550)
                                                                                                                                                                                                                                                                                     (bases 1 to 550)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                          /organism="Nectria haematococca mpIV"
/strain="NRRL2277"
/db_xref="taxon:135211"
/note="forma_specialis: xanthoxyli; anamorph:
solani f. sp. xanthoxyli"
<1. .>550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="taxon:135211"
/note="forma_specialis: xanthoxyli; anamorph: Fusarium
solani f. sp. xanthoxyli"
<1..>550
/note="contains 18S ribosomal RNA, internal transcribed
spacer 1, 5.8S ribosomal RNA, internal transcribed spacer
2, and 28S ribosomal RNA"
a 158 c 137 g 117 t
             /note="contains 18S ribosomal RNA, internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      93.6%;
 5.8S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 298.6; pred. No. 5.1e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
ribosomal RNA,
                                                                                                                                                                                                                                                          Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      298.6; DB 8;
No. 5.1e-72;
                                                                                                                                                                                                                                                          solani species
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RNA, internal transcribed internal transcribed spacer
internal transcribed spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                        Sordariomycetes;
                                                                                                                                                                                                                                                          complex
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PLN 20-DEC-2001
                                                                                                                                                                          NCAUR, USDA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1;
```

Ş В á В S 밁 Ş

В

밁

Ş

В ş

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
AF129104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 312
                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                 JOURNAL
                                                                             misc_RNA
                                                                                                       rRNA
                                                                                                                                           misc_RNA
                                                                                                                                                                       rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATACCCGCTGAACTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               atacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9c9gcgcggcacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cccgggcctggcgttggggatcggcggaagcccctgcggggcacaacgccgtcccccaaa 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTACAACCCTCAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGGCGCGCCACGCCGTAAAACACCCCAACTTCTGAAAGTTGACCTCGAATCAGGTAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCGGGCCTGGCGTTGGGGATCGGCGGAGCCCCCCTGCGGGCAC-ACGCCGTCCCCTAAA 413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        al Similarity 98.4
312; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                  AF129104 169 bp DNA linear PLN 25-MAR Nectria haematococca 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene and intranscribed spacer 2, complete sequence; and 28S ribosomal RNA gene, partial sequence.
                                                                                                                                                                                                                                                 Direct Submission
Submitted (17-FEB-1999) Biology, Sangmyung university,
Dong, Chong Ro-Gu, Seoul 110-743, Korea
                                                                                                                                                                                                                                                                                                                             Nectria haematococca
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
                                                                                                                                                                                                                                                                                           Min, B.R
                                                                                                                                                                                                                                                                                                                  Hypocreales; Nectriaceae;
                                                                                                                                                                                                                                                                                                                                                            Nectria haematococca.
                                                                                                                                                                                                                                                                                                                                                                                      AF129104.1
                                                                                                                                                                                                                                                                                                      (bases 1 to 569)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       138
             151
                                   /note="ITS-2"
/product="internal transcribed 512. .>569
                                                                                                      /product="internal transcribed 183. .340
                                                                                                                                            /product="18S ribosomal 31. .182
           /product="28S ribosomal RNA"
157 c 140 q 121 +
                                                                          /product="5.85 ribosomal 341. .511
                                                                                                                                                                                  /note="submitted
                                                                                                                                                                                              /organism="Nectria haematococca"
/db_xref="taxon:140110"
                                                                                                                               /note="ITS-1"
                                                                                                                                                                                                                                    ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and :
                                                                                                                                                                                                                                                                                                                                                                                     GI:4512119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     93.6%;
98.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      iribosomal
137 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 298.6; DB 8 Pred. No. 5.1e-72; 0; Mismatches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                   as Fusarium
                                                                                                                                                                                                                                                                                                                     Nectria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RNA"
117
                                                                                                                                                         RNA"
                                                                                         RNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4
                                                                                                                                                                                  solani"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                 spacer
                                                                                                                  spacer 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 550;
                                                                                                                                                                                                                                                                                                                                 Sordariomycetes;
                                                   2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PLN 25-MAR-1999
                                                                                                                                                                                                                                                               7 Hong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122
                                                                                                                                                                                                                                                                                                                                                                                                                                      internal
```

```
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                 BASE COUNT
ORIGIN
                      ş
                                                                                                                                                                                                                                        JOURNAL
REFERENCE
AUTHORS
TITLE
    В
                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                       LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
AF178397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                          Query Match
Best Local Similarity
Matches 311; Conserv
                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity Matches 312; Conserv
     233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63
            3 aaatgcgataagtaatgtgaatttgcagaattcagtgaatcatcggaatcttttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      w
                                                                                                                                                                                                                                                                                                                                                                                                                                                     6
  AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cccgggcctggcgttggggatcggcgggaagccccctgcgggcacaacgccgtcccccaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatcttttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TACAGTGGCGGTCCCGCCGCAGCTTCCATTGCGTAGTAGCTAACACCTCGCAACTGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA
                                                                                                                                                                                                                                                                                                                                                                             AF178397 DNA linear PLN 20-I Fusarium ambrosium strain NRRL20438 18S ribosomal RNA gene, sequence; internal transcribed spacer 1, 5.8S ribosomal RNA and internal transcribed spacer 2, complete sequence; and 28 ribosomal RNA gene, partial sequence.
                                                                                                                                                                                                               Submitted (18-AUG-1999) Microbial Properties Research, NCAUR, ARS, 1815 N. University St., Peoria, IL 61604, USA
                                                                                                                                                                                                                                                2 (bases 1 to 548)
O'Donnell,K.
                                                                                                                                                                                                                                        Direct Submission
                                                                                                                                                                                                                                                                     Molecular phylogeny 
Unpublished
                                                                                                                                                                                                                                                                                                               Eukaryota; Fungi; Ascomycota; Pezizomycotina; Hypocreales; mitosporic Hypocreales; Fusarium.
                                                                                                                                                                                                                                                                                                                                     Fusarium ambrosium
                                                                                                                                                                                                                                                                                           O'Donnell, K.
                                                                                                                                                                                                                                                                                                                                                 Fusarium ambrosium.
                                                                                                                                                                                                                                                                                                                                                                   AF178397.1 GI:10180238
                                                                                                                                                                                                                                                                                                       (bases
                                                                                                           141
                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                         /note="contains 18S ribosomal RNA, internal transcribed spacer 1, 5.8S ribosomal RNA, internal transcribed space 2, and 28S ribosomal RNA and 25 ribosomal RNA 161 c 133 g 113 t
                                                                                                                                                   /db_xref="taxon:131363"
<1. .>548
                                                                                                                                                                        /organism="Fusarium ambrosium"
/strain="NRRL20438"
                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                     1 to 548)
                                                     93.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     93.68;
                                                                                                                                                                                                                                                                                  of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                      Score 297; DB 8;
Pred. No. 1.4e-71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 298.6; DB 8;
Pred. No. 5.1e-72;
0; Mismatches 4;
                                                                                                                                                                                                                                                                                 the
                                            Mismatches
                                                                                                                                                                                                                                                                                 Fusarium
                                                                                                                                                                                                                                                                              solani species
                                            S
                                                                                                                             internal transcribed spacer
                                                              Length 548;
                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                         Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                              PLN 20-DEC-2001
                                          <u>بــ</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1;
                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                NA gene,
                     62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                           USDA,
                                          ٠.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ۲
                 δÕ
                                                           Qy
В
                                        В
                                                                                  В
                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
TITLE
JOURNAL
REFERENCE
                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
AF178398
                                                                                                                                                                               BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                        AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                    misc_RNA
                                                                                                                                                                                                                                                                             source
353
                     123
                                        293
                                                                                  233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    532
                                                             63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         183
                                                                                                      ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63
```

```
Query Match
Best Local Similarity
Matches 303; Conserv
                        CCCG999cctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaaa 182
                                                                          aaatgogataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
CCCGGGCCTGGCGTTGGGGATCGGCGAGGCGCCCCTGTGGGAACGCGCCGTCCCCCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        atacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCGGGCCTGGCGTTGGGGATCGGCGGAGCCCCCCGAGGGGAAC-ACGCCGTCCCCCAAA 411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTACAACCCTCAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ttgcgcccgccagtuttctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             O'Donnell,K.
Direct Submission
Direct Submission
Submitted (18-AUG-1999) Microbial Properties Research,
Submitted (18-AUG-1999) Microbial Properties Research,
ARS, 1815 N. University St., Peoria, IL 61604, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AR178398 Jinear PLN 20-DEC Nectria ipomoeae strain NRRL22101 18S ribosomal RNA gene, part sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene and internal transcribed spacer 2, complete sequence; and 28S ribosomal RNA gene, partial sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Fungi; Ascomycota; Pezizomycotina;
Hypocreales; Nectriaceae; Nectria.
1 (bases 1 to 549)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        O'Donnell, K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Molecular phylogeny of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AF178398.1 GI:10180239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AF178398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nectria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 549)
                                                                                                                                                                                                                                                                                                                                                           142
                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                           þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1pomoeae
                                                                                                                                                                                                                                                                                                                                                 /note-"contains 18S ribosomal RNA, internal transcribed spacer 1, 5.8S ribosomal RNA, internal transcribed spacer 2, and 28S ribosomal RNA"
158 c 136 g 113 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Nectria ipomoeae"
/strain="NRRL22101"
/db_xref="taxon:57162"
                                                                                                                                                                                                                                                                                                                                                                                                                                        <1. .>549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                        92.4%;
                                                                                                                                                                                                                                    Score 294.6; DB 8;
Pred. No. 6.4e-71;
0; Mismatches 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    solani species
                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RNA gene, partial
                                                                                                                                                                                                                                                                          549;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    complex
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PLN 20-DEC-2001
                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           352
                                                                                                                                                                                                                                                                                                                                                                                         spacer
                                                                                                                                                                                                                                  0
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
TITLE
JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
AF178413
                                                          Ş
                                                                                    В
                                                                                                      δ
                                                                                                                                ₽
                                                                                                                                                    Ş
                                                                                                                                                                         В
                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                δ
                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₽
 밁
                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        เอดบร
                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 306; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                misc_RNA
                                           410
                                                                                                          123
                                                                                                                                                                            232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  413
  470
                                                                                       352
                                                                                                                                 292
                                                                183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        183
                                                                                                                                                      63
                                                                                                                                                                                                w
                                                                                                | cccgggcctggcgttggggatcggcggaagccccctgcggggcacaacgccgtcccccaaa 182
                                                                                                                                          ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                       gcggcgcggccacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        atacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga
                                           tacagtggcggtcccgccgcagcttccattgcgtagtagctacacctcgcaactggaga
                                                                                                                                TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTACAACCCTCAGGCC
                                                                                                                                                                          AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATACCCGCTGAACTTAA 549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCGGCGCGCCATGCCGTAAAACACCCCAACTTCTGAATGTTGACCTCGAATCAGGTAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCGGGCCTGGCGTTGGGGATCGGCGGAGCCCCCC--GTGGGCACACGCCGTCCCCCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AF178413
AF178413
AF178413
AF178413
AF178413
AF178413
AF178413.1

GI:10180254
                                                                                                                                                                                                                                                                                                                                                                                    Submitted (18-AUG-1999) Microbial Properties Research, ARS, 1815 N. University St., Peoria, IL 61604, USA Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                               2 (bases 1 to 546)
O'Donnell,K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              O'Donnell,K.
Molecular phylogeny
                                                                                                                                                                                                                                                                                                                                                                                                                       Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Fungi; Ascomycota; Pezizomycotina; Hypocreales; Nectriaceae; Neocosmospora.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Neocosmospora ornamentata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Neocosmospora ornamentata.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (bases 1 to 546)
                                                                                                                                                                                                                                                                                      137
                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                      D:
                                                                                                                                                                                                                                                                                              /note="contains 18S ribosomal RNA, internal transcribed spacer 1, 5.8S ribosomal RNA, internal transcribed spacer 2, and 28S ribosomal RNA"
                                                                                                                                                                                                                                                                                                                                /organism="Neocosmospora/strain="NRRL22468"
/db_xref="taxon:131368"
<1. .>546
                                                                                                                                                                                                                                                                                      157 c
                                                                                                                                                                                                                               96.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of.
                                                                                                                                                                                                                     Score 288.6;
Pred. No. 2.9e
0; Mismatches
                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                     134 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fusarium
                                                                                                                                                                                                                                                                                      118 t
                                                                                                                                                                                                                ; DB 8;
2.9e-69;
9;
                                                                                                                                                                                                                                                                                                                                                                 ornamentata"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                solani
                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                               species
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sordariomycetes;
                                                                                                                                                                                                                                           546;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                complex
                                                                                                                                                                                                                     2;
                                                                                                                                                                                                                                                                                                                                                                                                           NCAUR,
                                                                                                                                                                                                                     Gaps
                     302
                                                                                       409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  472
                                           469
                                                               242
                                                                                                                                351
                                                                                                                                                                                                                                                                                                                                                                                                           USDA
                                                                                                                                                                                                                      ;;
                                                                                                      Qy
                                                                                                                                밁
                                                                                                                                                 Qy
                                                                                                                                                                        밁
                                                                                                                                                                                              οy
                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                       Ş
                                                                                    밁
                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                   Οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
```

```
JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
AF178402
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                              412
                                                                                                                                                                                                                                                                                  530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 303
532
                          303
                                                       472
                                                                                  243
                                                                                                                                          183
                                                                                                                                                                     354
                                                                                                                                                                                                  123
                                                                                                                                                                                                                              294
                                                                                                                                                                                                                                                         63
                                                                                                                                                                                                                                                                                                                w
                                                                                                                                                                 cccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaaa 182
                                                                                                                                                                                                                         tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     atacccgctgaacttaa
                                                                    9c9gc9cggccacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtagga
ATACCCGCTGAACTTAA
                                                    GCGGCGGGCCACGCCGTAAAACCCCCCAACTTCTGAACGTTGACCTCGAATCAGGTAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fusarium sp. NRRL22354.
Fusarium sp. NRRL22354.
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
Eukaryota; mitosporic Hypocreales; Fusarium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AF178402 548 bp DNA linear PLN 20-DEC-2001 Fusarium sp. NRRL22354 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and 28S ribosomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (18-AUG-1999) Microbial Properties Research, NCAUR, USDA, ARS, 1815 N. University St., Peoria, IL 61604, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   O'Donnell, K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Molecular phylogeny of the Fusarium solani species Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         O'Donnell, K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AF178402.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RNA gene, partial sequence.
AF178402
                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (bases 1 to 548)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (bases 1 to
                                                                                                                                                                                                                                                                                                                                                                                                                                139
                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                              ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Fusarium sp./strain="NRRL22354"
/db_xref="taxon:131398"
<1. .>548
                                                                                                                                                                                                                                                                                                                                                                                                                            /note-*contains 18S ribosomal RNA, spacer 1, 5.8S ribosomal RNA, 2, and 28S ribosomal RNA, 164 c 133 g 112 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GI:10180243
                                                                                                                                                                                                                                                                                                                                                        90.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 548)
                                                                                                                                                                                                                                                                                                                                                       Score 288.2; DB 8;
Pred. No. 3.8e-69;
                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                           internal transcribed spacer
                                                                                                                                                                                                                                                                                                                                                                    Length 548;
                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                         2
                                                                                                                                                                                                                                                                                                                                         Gaps
                                                     531
                                                                                302
                                                                                                            471
                                                                                                                                                                                                                                                                                                                                         2
```

```
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
TITLE
JOURNAL
REFERENCE
                                                        LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                            Ó
                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
VERSION
                                                                                         RESULT
NEXITS
                                                                                                                                                      ð
                                                                                                                                                                               망
                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                       밁
             SOURCE
                                  KEYWORDS
                                             VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 305; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                              411
                                                                                                                                                            303
                                                                                                                                                                                   471
                                                                                                                                                                                                       243
                                                                                                                                                                                                                                                     183
                                                                                                                                                                                                                                                                           353
                                                                                                                                                                                                                                                                                                 123
                                                                                                                                                                                                                                                                                                                         293
                                                                                                                                                                                                                                                                                                                                                                     233
                                                                                                                                                                                                                                                                                                                                              63
                                                                                                                                                                                                                                                                                                                                                                                3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatcttttgaacgcaca
                                                                                                                                     | tacagtggcggtcccgccgccagcttccattgcgtagtagctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                       cccgggcctggcgttggggatcggcggaagcccctgcgggcacaacgccgtcccccaaa
                                                                                                                                                                                                                                                                                                                                    TCCGGGCCTGGCGTTGGGGATCGGCGAGCCCCCC--GTGGGCACACGCCGTCCCCCAAA
                                                                                                                                                                                                                                                                                                                         TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTACAACCCTCAGGCC
                                                                                                                                                                                                                                                                                                                                                                     AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA 292
                                                                                                                                                                                                                               TACAGTGGCGGTCCCGCCGCATCTTCCATTGCGTAGTAGCTAACACCTCGCAACTGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Neocosmospora africana strain NRRL22436 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal gene, and internal transcribed spacer 2, complete sequence; and ribosomal RNA gene, partial sequence.

AF178412
AF178412.1 GI:10180253
                                Neocosmospora vasinfeo
L36627
L36627.1 GI:974161
PCR primer; internal t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   O'Donnell, K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Neocosmospora africana.
Neocosmospora africana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (18-AUG-1999) Microbial Properties Research, NCAUR, ARS, 1815 N. University St., Peoria, IL 61604, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                O'Donnell, K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Fungi; Ascomycota; Pezizomycotina; Hypocreales; Nectriaceae; Neocosmospora.
 Neocosmospora
                      syndrome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Molecular phylogeny of
             Neocosmospora vasinfecta
                                                                             NEXITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (bases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (bases 1 to 547)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    139
                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Neocosmospora africana"
/strain="NNRL22436"
/db_xref="taxon:131367"
<1...>547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="contains 18S ribosomal RNA, internal transcribed spacer 1, 5.8S ribosomal RNA, internal transcribed space 2, and 28S ribosomal RNA" 158 c 132 g 118 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 to 547)
                                                                                                                                                                                                                                                                                                                                                                                                                            90.0%;
                                                                    vasinfecta
vasinfecta
                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                  transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                Score 287; DB 8;
Pred. No. 8.1e-69;
0; Mismatches 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the
                                                                  544 bp
internal
           (strain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fusarium solani
             NRRL 22166) DNA
                                  spacer;
                                                                  DNA linear
transcribed space
                                                                                                                                                                                                                                                                                                                                                                                                                   10;
                                 soybean sudden
                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 547;
                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    species
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sordariomycetes;
                                                                  spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     complex
                                                                    PLN 17-MAY-1996
r DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PLN 20-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                2;
                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                              122
                                                                                                                                                                                                                                                                                                                                                                                           62
                                                                                                                                                                                                                                                     242
                                                                                                                                                                                                                                                                           410
                                                                                                                                                                                                                                                                                                 182
                                                                                                                                                                                                                               470
                                                                                                                                                                                                                                                                                                                         352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              USDA
                                                                                                                                                                                                                                                                                                                                                                                                                 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
                                REFERENCE
AUTHORS
TITLE
JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                    SOURCE
ORGANISM
                                                                                                                                                          ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                         AF178406
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE CO
                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
 FEATURES
                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                 RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
MEDLINE
                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNT
                                                                                                                                                                                                                                                                                                  531
                                                                                                                                                                                                                                                                                                                                                                                           411
                                                                                                                                                                                                                                                                                                                        303
                                                                                                                                                                                                                                                                                                                                              471
                                                                                                                                                                                                                                                                                                                                                                    243
                                                                                                                                                                                                                                                                                                                                                                                                                 183
                                                                                                                                                                                                                                                                                                                                                                                                                                       353
                                                                                                                                                                                                                                                                                                                                                                                                                                                              123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63
                                                                                                                                                                                                                                                                  12
                                                                                                                                                                                                                                                                                                  ATACCCGCTGAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            al Similarity
303; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mol. Plan
96025088
                                             O'Donnell, K.
                                                                                        O'Donnell, K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Fungi; Ascomycota;
                                                                Unpublished
                                                                                                    (bases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ۵ı
```

```
gcggcgcggccacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtagga 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaaa 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          atacccgctgaact 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCGGCGCGCCACGCCGTAAAAACACCCCAACTTCTGAATGTTGACCTCGAATCAGGTAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TACAGTGGCGGTCCCGCCGCAGCTTCCATTGCGTAGTAGCTAACACCTCGCAACTGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCGGGCCTGGCGTTGGGGATCGGCGGAGCCCCCC--GTGGGCACACGCCGTCCCCCAAA 410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hypocreales; Nectriaceae; Neocosmospora.

1 (bases 1 to 544)
1 (bases 1 to 547)
2 (bonnell, K. and Gray, L.E.
2 (bonnell, K. a
        Direct Submission
Submitted (18-AUG-1999) Microbial Properties
ARS, 1815 N. University St., Peoria, IL 61604
                                                                                                                                                                                                                                                                                                                                                                                              Fusarium sp. NRRL22396
Fusarium sp. NRRL22396
Eukaryota; Fungi; Ascomycota; Pezizon
Hypocreales; mitosporic Hypocreales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AF178406 550 bp DNA linear PLN 20-DEC-2001 FUSARIUM Sp. NRRL22396 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and 28S ribosomal internal transcribed spacer 2, complete sequence; and 28S ribosomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RNA gene, partial sequence. AF178406 AF178406.1 GI:10180247
                                                                                                                                                                                                                                                                                   Molecular phylogeny
                                                                                                                                                                                             (bases 1 to 550)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="internal transcribed spacer" 157 c 133 g 117 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /db_xref="taxon:40622"
1. .544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Neocosmospora vasinfecta"
/strain="NRRL 22166"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                1 to 550)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               96.5%;
                                                                                                                                                                                                                                                                                   of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 285.6; DB Pred. No. 2e-68; 0; Mismatches
                                                                                                                                                                                                                                                                               the
                                                                                                                                                                                                                                                                                   Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                              Pezizomycotina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pezizomycotina;
                                                                                                                                                                                                                                                                                   solani
                                                                                                                                                                                                                                                                                                                                                                                                           Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                      61604,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                         Research,
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                death
d from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ņ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           syndrome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1:
```

```
JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                             LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                     RESULT 1
AF150466
                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              日
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BASE COUNT
ORIGIN
                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                      SOURCE
ORGANISM
                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                            JOURNAL
rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_RNA
                         misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                         534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         123 cccgggcctggcgttggggatcggcgggaaagccccttgcggggcacaacgccgtcccccaaa 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          atacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCCGGGCCTGGCGTTGGGGATCGGCGGAGAGCCCCCTGCGGGCAAACGCCCTCCCCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTCCGAGCGTCATTACAACCCTCAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                         ATACCCGCTGAACTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  294;
                                                                                                                                                                                                                                                                                                                                  480 bp
Nectria haematococca strain SUF209
5.8S ribosomal RNA gene, and intern
complete sequence
                                                                                                                                                               Suga, H., Hasegawa, T., Mitsui, H., Kageyama, K. and Phylogenetic analysis of phytopathogenic fungus, based on the rDNA-TTS region
Mycol. Res. 104 (10), 1175-1183 (2000)
2 (bases 1 to 480)
                                                                                                              Suga,H., Hyakumachi,M. and Kageyama,K. Direct Submission Submitted (12-MAY-1999) Molecular Genetics University, Gifu 501-1112, Japan
                                                                                                                                                                                                                                                                                                                         complete sequence. AF150466
                                                                                                                                                                                                                             Hypocreales; Nectriaceae; Nectria.
                                                                                                                                                                                                                                                         Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
                                                                                                                                                                                                                                                                      Nectria haematococca
                                                                                                                                                                                                                                                                                   Nectria haematococca.
                                                                                                                                                                                                                                                                                                             AF150466.1 GI:7650164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="contains 18S ribosomal spacer 1, 5.8S ribosomal RNA, 2, and 28S ribosomal RNA, 161 c 133 g 120 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Fusarium sp. NRRL22396"
/strain="NRRL22396"
/db_xref="taxon:131402"
<1..>550
/product="internal transcribed spacer 1"
151. .308
                                     /note="anamorph: Fusarium solani f. sp. radicicola"
                                                 /db_xref="taxon:140110"
                                                             /organism="Nectria haematococca"
/strain="SUF209"
                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               87.8%;
92.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                         550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 280.2; DB 8; Pred. No. 6.1e-67;
                                                                                                                                                                                                                                                                                                                                                 and internal transcribed spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                          DNA linear PLN 05-JAN-2001 internal transcribed spacer 1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RNA, internal transcribed internal transcribed spacer
                                                                                                                            Research Center, Gifu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                      Hyakumachi, M.
Fusarium solani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
TITLE
                                                                                                                            BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 14
AF150467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
   Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 279;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                      rRNA
                                                                                                                                                                                                                        misc_RNA
                                                                                                                                                                                                                                                                                                                                                    misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 442 GCGGCGCCGCCACGCCGTAAAACACCCCAACTTCTGAATG 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaaa 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gcggcgcggccacgccgtaaaacaccccaacttctgaatg 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTACAACCCTCAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (12-MAY-1999) Molecular Genetics University, Gifu 501-1112, Japan Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Suga, H., Hasegawa, T., Mitsui, H., Kageyama, K. and Phylogenetic analysis of phytopathogenic fungus, based on the rDNA-ITS region Mycol. Res. 104 (10), 1175-1183 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AF150467

AF150467

AF210467

Nectria haematococca strain SUF210 internal transcribed spacer 1, 5.85 ribosomal RNA gene, and internal transcribed spacer 2, complete 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nectria haematococca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Suga, H., Hyakumachi, M. and Kageyama, K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AF150467
Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes; Hypocreales; Nectriaceae; Nectria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AF150467.1 GI:7650165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (bases 1 to 480)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (bases 1 to 480)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                             122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /product="5.8S ribosomal RNA" 309 .480
                                                                                                                                                                                                                     /product="5.8S ribosomal RNA" 309. .480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /product="internal transcribed 146 c 116 g 97 t
                                                                                                                                                      /product="internal transcribed 146 c 115 g 97 t
                                                                                                                                                                                                                                                                                      /product="internal transcribed 151. .308
                                                                                                                                                                                                                                                                                                                                                                        /organism="Nectria haematococca"
/strain="SUF210"
/db_xref="taxon:140110"
/note="anamorph: Fusarium solani f. sp. radicicola"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              87.5%;
100.0%;
87.5%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 279; DB 8;
Pred. No. 1.3e-66;
Score 279;
Pred. No.
DB 8;
1.3e-66;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  spacer
                                                                                                                                                                                    spacer
                                                                                                                                                                                                                                                                                                                spacer 1*
                             Length 480;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 480;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Research Center, Gifu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hyakumachi, M.
Fusarium solani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

	Qy 63 ttgcgccggccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
	Qy 3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
0;	Query Match 87.5%; Score 279; DB 8; Length 480; Best Local Similarity 100.0%; Pred. No. 1.3e-66; Matches 279; Conservative 0; Mismatches 0; Indels 0; Gaps
	Product Internal transcribed spacer 2" BASE COUNT 122 a 146 c 115 g 97 t ORIGIN
	'5.8S ribosomal RNA"
	l transcrib
	40110"
	/organism="Nectria hae
	Location/Qualifiers 1480
	Submitted (29-OCT-2001) V Baltimore Ave, BARC-West,
	ınd Lazar
	Can. J. Bot. (2002) In press 2 (bases 1 to 480)
orum	Genetic analysis of pathogenic and nor from tomato plants
	ENCE 1 (bases 1 to 480) HORS Bao,J.R., Fravel,D.R. and Lazarovits,G.
	!
	Nectria haematococca
	NOOT TO BURNEY COOK
	ACCESSION AF440567 VERSION AF440567.1 GI:18034435
	A gene, and internal transcribed s
- 0	110N Nectria haematococca isolate CS-1 internal transcribed spacer 1
3000	190 to 200 lipper DIN 02-13N-
	Db 442 GCGGCGCGCCACGCCGTAAAACACCCCAACTTCTGAATG 480
	Qy 243 gcggcgcggcacgccgtaaaacacccaacttctgaatg 281
	Db 382 TACAGTGGCGGTCCCGCCGCAGCTTCCATTGCGTAGTAGCTAACACCTCGCAACTGGAGA 441
	Qy 183 tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga 242
	11111111111111111111111111111111111111
	Oy 123 cccqqqcctqqcqttqqqqatcqqcqqaaqccccctqcqqqcacaaacqccqtcccccaaa 182
	Oy 63 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
	ATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCAC
	Qy 3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
0;	Matches 279; Conservative 0; Mismatches 0; Indels 0; Gaps

Search completed: August 21, 2002, 22:09:47 Job time: $14201\ \text{sec}$

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Total number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Searched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                       N_Geneseq_032802:*
1: /SIDS1/gcgdata/gg
2: /SIDS1/gcgdata/gg
3: /SIDS1/gcgdata/gg
4: /SIDS1/gcgdata/g
5: /SIDS1/gcgdata/g
6: /SIDS1/gcgdata/gg
6: /SIDS1/gcgdata/gg
7: /SIDS1/gcgdata/gg
8: /SIDS1/gcgdata/gg
9: /SIDS1/gcgdata/gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length: 0
length: 2000000000
           10:
111:
12:
13:
14:
15:
16:
16:
17:
18:
19:
20:
21:
22:
23:
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1980.DAT: *
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1981.DAT: *
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1982.DAT: *
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1983.DAT: *
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1983.DAT: *
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1983.DAT: *
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1985.DAT: *
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1986.DAT: *
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1986.DAT: *
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1989.DAT: *
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT: *
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT: *
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1991.DAT: *
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1991.DAT: *
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1993.DAT: *
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA2000.DAT: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-046-955-6
319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1736436 seqs, 858457221 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               August 21, 2002, 22:22:38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GenCore version 4.5
Copyright (c) 1993 - 2000 Comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gaaaatgcgataagtaatgt.....ggaatacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Search time 594.49 Seconds (without alignments) 921.287 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3472872
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

S
ž
5
RI
Ħ
ß

9 183.8 57.6									Result Query
6 504									Query Match Length DB
19	16	18	18	19	20	21	23	20	DB ID
AAV59028	AAT05400	AAT65101	AAT65100	AAV59009	AAV70851	AAA61893	AAS16211	AAV70850	ID
F. culmorum intern	Fusarium culmorum	T. harzianum IMI 3	T. harzianum IMI 3	F. avenaceum inter	Internal transcrib	Fusarium sp. MF638	Fungus genomic DNA	Internal transcrib	Description

ALIGNMENTS

RESULT

AAV70850 ID AAV7 Fusarium solani. Internal transcribed spacer 2; ITS2; probe; Aspergillus flavus; A. nider; A. terreus; A. nidulans; Fusarium solan1; F. moniliforme; Mucor rouxil; M. racemosus; M. plumbeus; M. indicus; A. funigatus; M. circinilloides f. circinelloides; Rhizopus oryzae; R. microsporus; R. circinans; R. stolonifer; Rhizomucor pusillus; Absidia corymbifera; Cunninghamella elegans; Pseudallesheria boydil; Scedosporium apiospermum; Penicillium notatum; Sporothrix schenkii; filamentous fungus; ss. Aidorevich L, AAV70850 standard; DNA; 319 BP 02-MAY-1997; 01-MAY-1998; 12-NOV-1998. W09850584-A2. Internal transcribed spacer 2 (ITS2) and adjacent regions. 26-FEB-1999 AAV70850; (USSH) US DEPT HEALTH & HUMAN SERVICES _ (first entry) Choi JS, 97US-0045400 98WO-US08926 Morrison CJ, Reiss Ħ

```
RESULT
AASIGIAT
IID AASI
XX
AC AASI
XX
DT 29---
XX
DT 29---
XX
DT Func
XX
KW Gibb
KW Gibb
KW Ilos
KW I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   дg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SXCCCCCCCCCCX PX PPT X R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present sequence represents an internal transcribed spacer 2 (ITS2) and adjacent regions. Probes can be derived from the present sequence which are species-specific. The specification also describes ITS2 sequence-derived probes for identifying a species selected from Aspergillus flavus, A. fundgatus, A. niger, A. terreus, A. nidulans, Fusarium solani, F. moniliforme, Mucor rouxii, M. racemosus, M. plumbeus, M. indicus, M. circinalloides f. circinelloides, Rhizopus oryzae, R. microsporus, R. circinans, R. stolonifer, Rhizopus oryzae, Absidia corymbifera, Cunninghamella elegans, Pseudallesheria boydii (teleomorph of Scedosporium apiospermum), Penicillium notatum, or Sporothrix schenkii. The probes can be used for differentiating filamentous fungal species from each other and from other medically
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New nucleic acid probes for filamentous fungi - for detecting e.g. Aspergillus, Fusarium, Mucor, Rhizopus, Rhizomucor, Absidia, Cunninghamella, Pseudoallescheria boydii, Penicillium and Sporothrix
                                                  Gibberella
                                                                                                                          ITS2; 5.8S rRNA; flowering; fruit
                                                                                                     russet
                                                                                                                                                                                                                                                                                   29-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                      AAS16211 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         species
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             important fungi.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 gaaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgca
                                                                                                                                                                                                                                                                                                                                                                                                                                      N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cattgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gaatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gagcggcgcgccacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aatacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aatacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtccccca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gaaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <u>gagcggcgcggccacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtag</u>
                                                                                                     control;
                                                                                                                                                                                                                             genomic DNA spanning 18S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Page 12; 45pp; English
                                                  fujikuroi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BP;
                                                                                                                                                                             18S rRNA;
                                                                                             fungus;
                                                                                             rRNA; internal transcribed spacer region; ITS1; LTB-1027; species differentiation; GA_4; GA_3; GA_7; cell elongation; apple; pear; grape; fruit; fungus; ds.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                77
                                                                                                                                                                                                                                                                                                                                                                                      DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Α,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             96
                                                                                                                                                                                                                                                                                                                                                                                      2293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                      ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 319; DB 20;
Pred. No. 1.8e-97;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <u>ი</u>
                                                                                                                                                                                                                                5.88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ŧ.;
                                                                                                                                                                                                                             and 28S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0 other;
                                                                                                                                                                                                                             rRNA and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 319;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                           ITS sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
```

```
This sequence represents a genomic DNA sequence containing the 18S rRNA gene, internal transcribed spacer regions 1 and 2 [ITS1, ITS2] and 5.8S rRNA sequences from a mutant strain of Gibberella fukikoroi (LTB-1027) of the invention. This region of DNA is highly variable and can be used for species and strain differentiation. The LTB-1027 mutant produces a mixture of gibberellins which is at least 70 % GA_4 and GA_7. Gibberellins GA_4 and GA_7 promote flowering and fruit cell elongation, and are used by growers of apples, pears and grapes to produce larger fruits and earlier harvests. The mixture of GA_3, GA_4 and GA_7 achieved using the method of this invention should be particularly useful in the apple industry where GA_4 has been found more effective in russet control and in promoting fruit set. This method produces GA_4 and GA_7 in much higher titers than prior art methods.
                                                                                                                                                                                                                                            A new method for producing a mixture of gibberellins fujikuroi results in high titers of GA4 and GA7 usefu flowering and fruit growth in the fruit growing indus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
    Sequence 2293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                     Example 4;
                                                                                                                                                                                                                                                                                                                                                         (GALL/) GALLAZZO J L.
(LEEM/) LEE M D.
                                                                                                                                                                                                                                                                                                                                                                                                  31-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                          23-AUG-2000; 2000US-0645073
                                                                                                                                                                                                                                                                                                                                                                                                                                                     11-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US6287800-B
                                                                                                                                                                                                                                                                                                    2001-662197/76
                                                                                                                                                                                                                                                                                                                               JL,
                                                                                                                                                                                                                    Column 9-12; 7pp; English
  BP;
                                                                                                                                                                                                                                                                                                                               Lee MD;
                                                                                                                                                                                                                                                                                                                                                                                                 99US-151770P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag= d
/note= "ITS2
2244..2293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /*tag= a
/note= "18S
1775..1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /*tag= c
/note= "5.
2079..2243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= "ITS1
1922..2078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /*tag=
 596 A; 527 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "28S rRNA gene'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .
88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              region"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 region"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rRNA gene'
592 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene"
 578 T; 0
                                                                                                                                                                                                                                               useful to
  other;
                                                                                                                                                                                                                                                                          from Gibberella
                                                                                                                                                                                                                                                     promote
```

```
Ş
                         Š
                                                 Б
                                                                                                      В
                                                                                                                           γ
                                                                                                                                                         밁
                                                                                                                                                                                Ş
                                                                                                                                                                                                         Query Match
Best Local S
Matches 280
                                                                                                                                                         1971
    2144
                                                    2091
                                                                                                      2031
                            182
                                                                              122
                                                                                                                              62
                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                  aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
            atacagtggcggtcccgccgcagcttccattgcgtagtagctaaccctcgcaactggag
                                                             ccccgggcttggcgttggggatcggcggaagcccctgcgggcacaacgccgtcccccaa
                                                                                                   altgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagc
                                                                                                                 attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc 121
                                                                                                                                                     aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
atctagtggcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggta
                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                      76.6%;
88.1%;
                                                                                                                                                                                                         0,
                                                                                                                                                                                                                      Score 244.4;
Pred. No. 5.5
                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                     nes 31;
                                                                                                                                                                                                                                  DB 23;
                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                               Length
                                                                                                                                                                                                         7;
                                                                                                                                                                                                       Gaps
                                                                           181
                                                                                                                                                      2030
                                                                                                                                                                                61
                                                 2143
                                                                                                                                                                                                         ۲,
```

δÃ

Ş

Ş

Вþ

```
RESULT AAA61893 ID AAA61893 ID AAA61893 ID AAA66 XX AAA6 XX AAA6 XX R1bc KW HIV KW BYMN KW COMPLE CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         р
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
Query Match
Best Local S
Matches 276
                                                                                                                                                                    antiviral agent, an immunomodulator and an antiinfective agent. The compounds of the invention may be used in the inhibition of HIV integrase and in the prevention and treatment of HIV infection. A wide range of state of HIV infection may be treated: AIDS (acquired immunodeficiency syndrome); ARC (AIDS-related complex); both symptomatic and asymptomatic HIV infection; and actual or potential exposure to HIV. The compounds may be used to isolate HIV integrase mutants which are potentially useful as screening tools for antiviral compounds. The compounds may also be used to establish or determine the site at which other antivirals bind to HIV integrase (e.g., by competitive inhibition). The present sequence represents the ribosommal DNA (rDNA) internal transcribed spacer (ITS) region of Fusarium sp. MF6381, which may be used to characterise MF6381.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HIV integrase inhibitor; steroid compound; human immunodeficency virus acquired immunodeficiency syndrome; AIDS; ARC; AIDS-related complex; symptomatic infection; asymptomatic infection; potential HIV exposure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to novel steroid compounds derived from the African soil fungus Fusarium sp. MF6381 (ATCC 74469) which act as inhibitors of HIV integrase. The invention encompasses cultures of Fusarium sp. MF6381. The invention also relates to a composition comprising a compound of the invention in combination with an AIDS comprising a compound of the invention in combination with an AIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    combination therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ribosomal DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fusarium sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14 - NOV - 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAA61893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HIV
New
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Singh SB,
Dombrowski
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200036132-A1
                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 14; 113pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (MERI ) MERCK &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         infection and AIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    steroid compounds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cgcggcgcggccaagccgttaaaccccccaacttctgaatgttgacctcggatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   agcggcgcgcacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000-431606/37
11 Similarity
276; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               standard;
                                                                                                                            502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zink DL,
L AW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MF6381 rDNA internal transcribed spacer
  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MF6381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first
                                                                                                                            BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rDNA ITS region;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98US-0112168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99WO-US29356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CO INC
                                                                                                                            127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hazuda
                          88
88
                                                                                                                            A; 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    are HIV integrase inhibitors used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  502
                          . 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ВÞ
                                                                                                                            Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               English
     0,
     Score 241.8;
Pred. No. 2.2e
0; Mismatches
                                                                                                                               118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              internal transcribed spacer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Felock PJ,
                                                                                                                            <u>د</u>
                                                                                                                               113
                               .2e-7
                                                                                                                               Τ,
                                                       DB 21;
                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Polishook
                                                                                                                                 other;
                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (STI)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            for treating
                                                          502;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                region
       5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCC
          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   virus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              74469;
          ٢
```

```
RESULT
AAV70851
ID AAV7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
A. niger; A. terreus; A. nidulans; Fusarium solani; F. moniliforme; Mucor rouxii; M. racemosus; M. plumbeus; M. indicus; A. fumigatus; M. circinilloides f. circinelloides; Rhizopus oryzae; R. microsporus; R. circinans; R. stolonifer; Rhizomucor pusillus; Absidia corymbifera; Cunninghamella elegans; Pseudallesheria boydii; Scedosporium aplospermum; Penicillium notatum; Sporothrix schenkii; filamentous fungus; Ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAV70851
                                                                                                                                                                                                                                                                                                                    Fusarium moniliforme
                                                                                                                                                                                                                                                                                                                                                                                                 Internal transcribed spacer 2; ITS2; probe; Aspergillus flavus;
A. niger; A. terreus; A. nidulans; Fusarium solani; F. moniliforme;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAV70851;
                                                                            Claim 1;
                                                                                                              Cunninghamella, Pseudoallescheria
                                                                                                                       Aspergillus,
                                                                                                                                    New nucleic acid
                                                                                                                                                                                 Aidorevich
                                                                                                                                                                                                                            02-MAY-1997;
                                                                                                                                                                                                                                                 01-MAY-1998;
                                                                                                                                                                                                                                                                        12-NOV-1998
                                                                                                                                                                                                                                                                                               W09850584-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                Internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             atacagtggcggtcccgccgcagcttccattgcgtagtagctaacccctcgcaactggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ccccqqgccttggcgttggggatcggcgggaagcccctgcgggcacaacgccgtcccccaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aatacccgctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aatacccgctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   atctagtggcggtctcgctgcagcctccattgcgtagtagctaacacctcgcaactggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ccccgggtttggtgttggggatcgggctgcggttctaccgcg
                                                                                                                                                           1999-034737/03.
                                                                                                                                                                                                      US DEPT HEALTH & HUMAN SERVICES
                                                                                                                                                                                                                                                                                                                                                                                                                                  transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    standard;
                                                                            Page
                                                                                                                                                                               Ĺ
                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first
                                                                                                                       rusarium, Mucor,
                                                                            12;
                                                                                                                                                                               Choi
                                                                                                                                                                                                                            97US-0045400
                                                                                                                                                                                                                                                  98WO-US08926
                                                                           45pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            502
                                                                                                                                                                                                                                                                                                                                                                                                                                                        entry)
                                                                                                                                                                               JS,
                                                                                                                                                                                                                                                                                                                                                                                                                                 spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     310
                                                                            English
                                                                                                                        for filamentous fungi - for detecting e.g.
Mucor, Rhizopus, Rhizomucor, Absidia,
                                                                                                                                                                                 Morrison
                                                                                                                                                                                                                                                                                                                                                                                                                                  2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                (ITS2) and adjacent regions.
                                                                                                                                                                               Ć,
                                                                                                              boydii,
                                                                                                                                                                                 Reiss
                                                                                                              Penicillium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----tcccggccccgaa
                                                                                                              and
                                                                                                              Sporothrix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            254
```

The present sequence represents an internal transcribed spacer 2 (ITS2) and adjacent regions. Probes can be derived from the present sequence which are species-specific. The specification also describes ITS2 sequence-derived probes for identifying a species selected from Aspergillus flavus, A. funigatus, A. niger, A. terreus, A. nidulans, Aspergillus flavus, A. funigatus, A. niger, A. terreus, A. nidulans,

Aspergillus flavus,

moniliforme,

Mucor rouxii,

.

racemosus,

M. plumbeus

```
RESULT
AAV59009
ID AAV5
XX
XX
AC AAV5
XX
DT 06-J
XX
DT 06-J
XX
FI
DT 06-J
XX
FI
DT 06-J
XX
INTE
ET misc
FT mis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSSSSSSSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  品
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query
Best I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         M. indicus, M. circinilloides f. circinelloides, Rhizopus oryzae, R. microsporus, R. circinans, R. stolonifer, Rhizomucor pusillus, Absidia corymbifera, Cunninghamella, Pseudallesheria boydii (teleomorph of Scedosporium aplospermum), Penicillium notatum, or Sporothrix schenkii. The probes can be used for differentiating filamentous fungal species from each other and from other medically
                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                     01-AUG-1997;
                                                                                                                 01-AUG-1997;
                                                                                                                                                                                                          US5827695-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     06-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAV59009;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAV59009
                        (NOVS ) NOVARTIS FINANCE CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                        Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Internal transcribed spacer; ITS; Microdochium; Fusarium; wheat pathogen; fungal pathogen identification; infection identification; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                y Match
Local Similarity
ches 277; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 310 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      important fungi.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatcttttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       avenaceum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       atacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  atacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gcggcgcggcacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tacagtggcggtcccgccgcagcttccattgcgtagtagctaacaccctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cccgggtttggtgttggggatcggcaagcccttgcggc-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gcggcgcggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tctagtggcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                        avenaceum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                     97US-0905314
                                                                                                                 97US-0905314
                                                                                                                                                                                                                                                                                            /*tag= a
/note= "ITS1"
339..504
                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers 31..181
                                                                                                                                                                                                                                                      /*tag= b
/note= "ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 75.3%;
87.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ű
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 240.2; 1
Pred. No. 6.3e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>G</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       spacer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           71 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .3e-71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -aagccggccccgaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1;
```

```
RESULT
AAT65100
                                                                                                                                                                                                                                                                                                                                                                                                                      Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SXCCCCCCCCX PX PT PT XXX
PF XXX
                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                  DЪ
                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This sequence represents an internal transcribed spacer (ITS) sequence of the invention. The primer pairs, based on the ITS sequences, are used for the PCR amplification detection of wheat Microdochium and Fusarium fungation pathogens, especially M. nivale, F. graminearum, F. culmorum, F. avenaceum, F. poae, F. moniliforme or F. roseum. The two different strains of fungi show different symptoms during infection, which may or may not be due to infection. Early identification of the strain causing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wheat
basis
                                                                                                 ITS1-ITS4 region; 5.8S rRNA; filamentous fungi; Trichoderma harzianum; liquid formulation; T. viride; gene recipient; increase activity; biological control agent; plant disease; biodeterioration; biolixiviation; leaching; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         detection of the pathogens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Beck
                        15-MAY-1997
                                                                                                                                                                                                                                               AAT65100 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 561 BP; 145 A; 152 C; 135 G; 126 T; 3 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; Column 29-30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1998-593995/50
                                                                          Trichoderma
                                                                                                                                                                                             17-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         524
                                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                                                   465
                                                                                                                                                                                                                                                                                                                                                                                            242
                                                                                                                                                                                                                                                                                                                                                                                                                        405
                                                                                                                                                                                                                                                                                                                                                                                                                                                182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              231 aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                                                                                                                   harzianum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                                                                                                                                                                                                                         6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           infection allows early, and more specific fungicidal treatment.
                                                                                                                                                                                                                                                                                                               aatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                             aatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                             agcggcgcgcacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                    atacagtggcggtcccgccgcagcttccattgcgtagtagctaaccacctcgcaactggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       į,
                                                                                                                                                                                                                                                                                                                                                                  cgcggcgcggccatgccgtaaaac.cccaacttctgaatgttgacctcggatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                     atacattggcggtctcgctgcagcctccattgcgtagtagctaacacctcgcaactggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ccccgggtttggtgttggggatcggctctgccttmyggcgg-----tgccgccccgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pathogen internal transcribed spacer sequences - used for primers for the species-specific polymerase chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                           harzianum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                   IMI
                                                                                                                                                                                          (first entry)
                                                                                                                                                                  352940 5.8 S rRNA gene
                                                                                                                                                                                                                                               DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              75.2%;
                                                                          strain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20pp; English.
                                                                                                                                                                                                                                                                                                                                         319
                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                               ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 240; DB Pred. No. 9.4e 2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2;
                                                                          IMI
                                                                           352940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240; DB 19
No. 9.4e-71
                                                                                                                                                                  regions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        reaction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                      464
                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                   523
                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tungal
```

06-NOV-1996;

96WO-ES00206

```
õ
                                                                밁
                                                                                        Q
                                                                                                                                   Вp
                                                                                                                                                                Ş
                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present sequence represents the ITS1-ITS4 region of the 5.85 rRNA CC gene from the filamentous fungi Trichoderma harzianum strain IMI 352940. CC A novel liquid formulation based on strains of T. harzianum and CC T. viride, has the following composition (w/v%): 0.1-6 sorbitol; CC 0.02-2 k3P03; 0.05-2 kN03; 0.002-1 MgS04.7H20; 0.02-2 (NH4)H2P04; CC 0.02-2 copper; 0.02-2 zinc; 0.02-2 molybdenum; 0.02-1 boron; 0.02-1 iron; CC IMI 352940; 3x 105 to 10 x 107 component comprising at least one of: CT harzianum IMI 352939 (3 x 105 to 10 x 107 conidia/ml), T. harzianum CC T. viride CECT 20178. The Trichoderma fungi, alone or in combination, CC are used as gene recipients to increase activity of the formulation as a CC biological control agent against diseases of plants and plant material CC and biological entities causing biodeterioration, and as a CC doilativitation (leaching) agent. It is particularly used e.g. in CC agriculture, forestry and gardening; for controlling microorganisms which CC damage food and its packaging, construction materials, raw materials and CC manufactured products. The antagonistic capacity of the four types of CC manufactured products. The antagonistic capacity of the four types of CC useful for control of plant diseases. Use of this formulation allows CC reduced application of polluting chemical pesticides and is thus more CC eco-friendly.
                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (CNSJ )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Liquid formulation of Trichoderma harzianum and Trichoderma viride strains - are used as biological control agents against diseases o plants and plant material and as biolixiviation agents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1997-280728/25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Garcia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                07-NOV-1995;
                                                                                                                                     443
                                                                                                                                                                                                         384
                                                                   503
                                                                                                                                                                       183
                                                                                                                                                                                                                                          123
                                                                                                                                                                                                                                                                            324
                                                                                                                                                                                                                                                                                                          63
                                                                                                                                                                                                                                                                                                                                                                              w
                                                                                                                                                                                                                                                                                         ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc
                                                                                                                                                                                                                                                                                                                                                            aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaattttgaacgcaca
ggaatacccgctgaacttaa
                 ggaatacccgctgaacttaa
                                                                 cgcggcgcgtccacagccgttaaacacccaacttctgaaatgttgacctcggatcaggta
                                                                                   agcggcggccac-gccgtaaaacacccaacttctg-aatgttgacctcgaatcaggta
                                                                                                                                 tacagtggcggtcccgccgcagcttccattgcgtagtagctaacac-ctcgcaactggag
                                                                                                                                                                                                     cctccgcc-cccctcggcgttggggatcggccctcccttagcgggtggccgtctccgaaa
                                                                                                                                                                                                                       cccgggcctggcgttggggatcggcgggaagccccctgcgggcacaacgccgtcccccaaa
                                                                                                                                                                                                                                                                         ttgcgcccgccagtattctggcgggcatgcctgtccgagcgtcatttcaaccctcgaacc
                                                                                                                                                                                                                                                                                                                                            aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                268;
                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CONSEJO SUPERIOR INVESTIGACIONES CIENTIF.
                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Page 26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BP; 129 A; 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                95ES-0002266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Grondona
                                                                                                                                                                                                                                                                                                                                                                                                                            61.2%;
83.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       37pp; Spanish.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Espana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ω;
                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. 1.2e-55;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 195.2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  142 G;
                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Monte Vazquez
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  133 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 18;
                                                                                                                                                                                                                                                                                                                                                                                                                48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0 other;
                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                              4.
                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of.
                                                                                                                                                                   241
                                                                                                 299
                                                                                                                                     502
                                                                                                                                                                                                         442
                                                                                                                                                                                                                                       182
                                                                                                                                                                                                                                                                         383
                                                                                                                                                                                                                                                                                                                                            323
                                                                                                                                                                                                                                                                                                                                                                            62
```

```
Ş
                                                    밁
                                                                                                                                                                                                       CC The present sequence represents the ITS1-ITS4 region of the 5.8s rRNA CC gene from the filamentous fungi Trichoderma harzianum strain IMI 352941. CC A novel liquid formulation based on strains of T. harzianum and CC T. viride, has the following composition (w/v%): 0.1-6 sorbitol: CC 0.02-2 KB903; 0.05-2 KN03; 0.002-1 MgS04.7H20; 0.02-2 boron; 0.02-2 inc; 0.02-2 molybdenum; 0.02-1 boron; 0.02-1 iron; CC 0.02-2 copper; 0.02-2 zinc; 0.02-2 molybdenum; 0.02-1 boron; 0.02-1 iron; CC T. harzianum IMI 352939 (3 x 105 to 10 x 107 conidia/ml), T. harzianum IMI 352941 (2 x 105 to 10 x 107 conidia/ml), T. harzianum IMI 352941 (2 x 105 to 10 x 107 conidia/ml), T. harzianum IMI 352941 (3 x 105 to 10 x 107 conidia/ml), T. harzianum IMI 352941 (3 x 105 to 10 x 107 conidia/ml), T. harzianum IMI 352941 (C T. viride CECT 20178. The Trichoderma fungi, alone or in combination, CC are used as gene recipients to increase activity of the formulation as a CC biological control agent against diseases of plants and plant material CC admage food and its packaging, construction materials, raw materials which CC damage food and its packaging, construction materials, raw materials and CC manufactured products. The antagonistic capacity of the four types of C T. harzianum and one type of T. viride over other soil fungi makes them CC useful for control of plant diseases. Use of this formulation allows of control of plant diseases. Use of this formulation allows
                                                                                                                   Query Match
Best Local S
Matches 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Liquid formulation of Trichoderma harzianum and strains - are used as biological control agents plants and plant material and as biolixiviation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             liquid formulation; T. viride; g biological control agent; plant biolixiviation; leaching; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ITS1-ITS4 region; 5.8S rRNA; filamentous fungi; Trichoderm liquid formulation; T. viride; gene recipient; increase ac biological control agent; plant disease; biodeterioration;
                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (CNSJ ) CONSEJO SUPERIOR INVESTIGACIONES CIENTIF (UYSA-) UNIV SALAMANCA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07-NOV-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             06-NOV-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAT65101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAT65101 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-MAY-1997
                                                    247
                   63
                                                               aaatgogataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                               aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                     al Similarity 83.4
272; Conservative
                                                                                                                                                                                                                                                      application
                                                                                                                                                                                                       569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Page 27; 37pp; Spanish.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               harzianum
                                                                                                                                                                                                       B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               96WO-ES00206
                                                                                                                                                                                                       139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               352911 5.8 S rRNA gene regions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Grondona
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA;
                                                                                                                                 57.9%;
                                                                                                                                                                                                                                                      of polluting
                                                                                                                                                                                                     ?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 strain IMI 352941
                                                                                                                                                                                                       171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Espana
                                                                                                                                                                                                     Ç
                                                                                                                   Score 184.8;
Pred. No. 3.7e
0; Mismatches
                                                                                                                     0;
                                                                                                                                                                                                       143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŗ,
                                                                                                                                                                                                                                                        chemical pesticides
                                                                                                                                                                                                    <u>ن</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Monte Vazquez
                                                                                                                                                                                                     116 T; 0 other;
                                                                                                                                     .7e-52;
                                                                                                                                                   DB 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Trichoderma virion against diseases agents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Trichoderma
                                                                                                                     Indels
                                                                                                                                                 Length 569;
                                                                                                                                                                                                                                                        and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                activity;
                                                                                                                                                                                                                                                        19
                                                                                                                   12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           viride
seases of
                                                                                                                                                                                                                                                        thus
                                                                                                                 Gaps
                                                                                                                                                                                                                                                        more
                                                  306
```

Ś

```
RESULT
AATO5400
ID AATO
XX AATO
XX AATO
XX AATO
XX DE FUSA
XX Plan
KW Pseu
KW Myco
KW Isol
XX FUSA
XX INTE
XX ION
PF 19-A
XX CIB
PR 25-A
XX CIB
PR USA
XX CIB
XX OF PR
XX CIB
XX C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                Query Match
                                                                                                                                                                                                                               e.g. Septoria nodorum, S.tritici, Pseudocercosporella herpotricholdes, Mycosphaerella fijiensis, M.musicola or Fusarium spp, involves the PCR amplification of sequences found in the internal transcribed region (ITS) of the 185, 5.8S and 28S ribosomal RNA genes by the primers AAQ94359-93 and AAT05357-72. These primers are derived from the ITS sequences of these fungi (AAT05394-705404 and AAQ94398) and are strain specific. The amplification products of the reactions using these primers can be used with the capture primers AAT05378-93 in colourimetric assays. The primers and ITS DNAs can be used for the detection of specific fungal pathogen isolates and in monitoring disease the capture isolates and in monitoring disease the capture isolates and in monitoring disease the capture primers and in monitoring disease the capture isolates and in monitoring disease the capture primers and in the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WP1;
                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1;
                                                                                                                                                                                                          development in plant populations.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A novel method for the detection of plant pathogenic strains of fungi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Beck
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (CIBA ) CIBA GEIGY AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-APR-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19-APR-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-NOV-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        W09529260-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pseudocercosporella herpotrichoides; Mycosphaerella fijiensis; PCR; Mycosphaerella musicola; amplification; primer; ribosomal RNA gene; internal transcribed region; strain; capture; colourimetric assay;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Plant pathogen; fungus; Septoria nodorum; Septoria tritici;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        04-JUN-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAT05400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             isolate;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           plant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1995-383005/49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    caggtaggaatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ctggagagcggcgcgggccacg-ccgtaaaacacccaacttctg-aatgttgacctcgaat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gaaatacagtggcggtctcgccgcagcctctcctgcgcagtagtttgcacaactcgacac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               caaatacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctc---gcaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cctccggggggtcggcgttggggacctcgggagcccctaagacgg...gatcccggcccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    caggtaggaatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cgggagcgcggcgtccacgtccgtaaaacacccaacttctgaaatgttgacctcggat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ding intervening transcribed fungal pathogens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         culmorum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      transcribed region; strain; capture; colourimetric assay; development; population; random amplified polymorphic DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Page 54-55; 65pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             culmorum internal transcribed spacer sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              standard; DNA; 504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ligon JM;
                                                                                                                                     BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          94US-0233608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   95WO-US04712
                                                                                                                                         133
                                                                                                                                     A; 132 C;
   57
81
. 5%;
Score 183.8; DB 1
Pred. No. 7.7e-52;
                                                                                                                                     113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     319
                                                                                                                                     <u>د</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequence
                                                                                                                                         122
                                                                                                                                     ₽
;;
                            DB 16;
                                                                                                                                 4 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            used
                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        detection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fusarium;
                                                                                                                                                                                                                                          disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SS
```

Best Local Similarity

This sequence represents an internal transcribed spacer (ITS) sequence the invention. The primer pairs, based on the ITS sequences, are used the PCR amplification detection of wheat Microdochium and Fusarium func

used for

fungal

```
RESULT
ANAPSOVAR
AC ANAPSOVAR
A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                             Wheat pathogen internal transcribed spacer sequences - used basis for primers for the species-specific polymerase chain detection of the pathogens
                                                                                                                                                                                                                                                                            Beck
                                                                                          Disclosure;
                                                                                                                                                                                                                            WPI; 1998-593995/50
                                                                                                                                                                                                                                                                                                                                                                 01-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F. culmorum internal transcribed spacer.
                                                                                                                                                                                                                                                                                                                 (NOVS ) NOVARTIS
                                                                                                                                                                                                                                                                                                                                                                                                            01-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         27-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US5827695-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fusarium culmorum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             fungal pathogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            06-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAV59028 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Internal transcribed spacer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          211 aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       aatacccgctgaa 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            atacattggcggtcacgtcgragcttccatagcgtagtaatttacatatcgttactggta 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      atacagtggcggtcccgccgcagcttccattgcgtagtagctaaccacctcgcaactggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aatacccgctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    atcgtcgcggcyacgccgttaaac-cccaacttctgaatgttgacctcggatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cc---agcttggtgttgggagctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaa 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       255;
                                                                                     Column 21-22; 20pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                 97US-0905314
                                                                                                                                                                                                                                                                                                                                                                                                         97US-0905314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag= a
/note= "ITS1"
319..472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers 13..161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             identification;
                                                                                                                                                                                                                                                                                                                    FINANCE CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ITS;
                                                                                       English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             infection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Microdochium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           chium; Fusarium; identification;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cagtcctgctgcactcccaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                wheat pathogen;
                                                                                                                                                       reaction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ω
```

```
RESULT 1
1D AAVVS
XX AVVS
DT 17-1
DE FUSS
XX Intt
KW FUSS
XX Intt
KW PCR
XX Sepp
KW Sepp
KW PCR
XX Sepr
T miss
FT miss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              33333×3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Mat
Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 pathogens, especially M. nivale, F. graminearum, F. culmorum, F. avenaceum, F. poae, F. moniliforme or F. rosseum. The two different strains of fungi show different symptoms during infection, which may or may not be due to infection. Early identification of the strain causing the infection allows early, and more specific fungicidal treatment.
                                                                                                                                                                                                                                                                           Fusarium culmorum; Fusarium graminearum;
Septoria avenae; Microdochicum nivale; Fu
PCR; nucleic acid detection; ss.
                                                                                          misc_feature
                                                                                                                               misc_feature
                                                                                                                                                                      misc_feature
                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 504 BP; 133 A; 132 C; 113 G;
  US5814453-A
                                                                                                                                                                                                                                                    Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                             AAV62591 standard;
                                                     misc_feature
                                                                                                                                                                                                                                                                                                     Internal transcribed spacer; ITS; ribosomal RNA; rRNA; fungal pathogen;
Fusarium culmorum; Fusarium graminearum; Fusarium moniliforme; plant;
                                                                                                                                                                                                                                                                                                                                            Fusarium culmorum PCR amplified ITS
                                                                                                                                                                                                                                                                                                                                                                         17-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                   AAV62591;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aatacccgctgaa 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ccccgggcctggcgttggggatcggcgggaagccccctgcgggcacaacgccgtcccccaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aatacccgctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  atacattggcggtcacgtcgragcttccatagcgtagtaatttacatatcgttactggta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               atacagtggcggtcccgccgcagcttccattgcgtagtagctaaccacctcgcaactggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cc---agcttggtgttgggagctg------cagtcctgctgcactccccaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                    culmorum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                      /*tag= c
/note= "5.8S
319..472
                                                  /*tag= d
/note= "ITS
473..504
                                                                                                                              /*tag* b
/note* "ITS
162..318
                                                                                                                                                                       /*tag= a
/note= "3'
13..161
                          /*tag=
/note=
                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                 /*tag=
                                                                                                                                                                                                                                                                                         Microdochicum nivale; Fusarium poae;
                                                                                                                                                                                                                                                                                                                                                                                                                             DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       57.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                             504
                                                                                                                                                                                     end
                           end of large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1;
                                                                                                                                                                                                                                                                                                                                                                                                                             ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 183.8; DB 1
Pred. No. 7.7e-52;
                                                                                                       rRNA
                                                                                                                                                                                     of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                     small
                                                                                                                                                                                                                                                                                                                                             region consensus DNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              122 T; 4 other;
                                                                                                                                                                                     subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             38;
                           rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                          Fusarium avenaceum;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ω
••
```

```
RESULT 1
AAV59030
ID AAV5
XX
AC AAV5
XX
                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                         οy
                                                                                                                                      δÃ
                                                                                                                                                                       B
                                                                                                                                                                                               οy
                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                       Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CC This represents the consensus DNA sequence of the internal transcribed CC spacer (ITS) region that was PCR amplified from Fusarium culmorum CC isolates, R-5106, R-5126 and R-5146. The invention provides a DNA CC molecule isolated from the ribosomal RNA (rNNA) gene region of a fungal CC pathogen, where the DNA molecule consists of an ITS sequence selected CC from ITS1 and ITS2 of Fusarium culmorum, Fusarium graminearum, Fusarium CC moniliforme, Septoria avenae or Microdochicum nivale. A method for CC detecting F. graminearum, F. culmorum, F. moniliforme, F. poae, CC F. avenaceum and M. nivale isolates is also provided. The method CC comprises isolating DNA from a plant leaf infected with at least one of CC the above pathogens and amplifying parts of the ITS sequence of the CC pathogen(s) by PCR using specific primers from within these sequences. CC The pathogen(s) are detected by visualising the amplified part of the CC ITS sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-JUL-1997;
19-APR-1995;
15-OCT-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 2; Fig 3; 56pp; English.
             AAV59030;
                                         AAV59030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA isolated from fungal RNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-JUL-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 504 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29-SEP-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (NOVS ) NOVARTIS
                                                                                                              492
                                                                                                                                           302
                                                                                                                                                                       433
                                                                                                                                                                                                242
                                                                                                                                                                                                                              373
                                                                                                                                                                                                                                                           182
                                                                                                                                                                                                                                                                                       331
                                                                                                                                                                                                                                                                                                                  122
                                                                                                                                                                                                                                                                                                                                              271
                                                                                                                                                                                                                                                                                                                                                                                                       211
                                                                                                                                                                                                                                                                                                                                                                           62
                                                                                                                                                                                                                                                                                                                                                                                                                                  N
                                                                                                                                                                                                                                                                                                                                          aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac 61
                                                                                                             aatacccgctgaa
                                                                                                                            aatacccgctgaa
||||||||||||
                                                                                                                                                                                                                                         atacagtggcggtcccgccgcagcttccattgcgtagtagctaaccctcgcaactggag
                                                                                                                                                                                                                                                                                                                                                                                                    aaaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                                                                                                                    atcgtcgcggcyacgccgttaaac-cccaacttctgaatgttgacctcggatcaggtagg
                                                                                                                                                                                 agcggcgcgcacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagg
                                                                                                                                                                                                                          atacattggcggtcacgtcgragcttccatagcgtagtaatttacatatcgttactggta
                                                                                                                                                                                                                                                                                 cc---agcttggtgttgggagctg------cagtcctgctgcactcccaa
                                                                                                                                                                                                                                                                                                               ccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ol Similarity
255; Conserv
                                        standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             used
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97US-0887480.
95WO-US04712.
96US-0722187.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97US-0887480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          for detecting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FINANCE CORF
                                        DNA;
                                                                                                              504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         57.6%;
81.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; 132
                                         545
                                        ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 183.8; DB 1
Pred. No. 7.7e-52;
1; Mismatches 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and its internal transcribed spacer fungal pathogens in plant tissue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   <u>ن</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     T; 4 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                              19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
```

330

270

ų.

491

```
밁
             δ
                                         В
                                                               δ
                                                                                            밁
                                                                                                              Ş
                                                                                                                                           日
                                                                                                                                                                 ô
                                                                                                                                                                                         В
                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                      This sequence represents an internal transcribed spacer (ITS) sequence of the invention. The primer pairs, based on the ITS sequences, are used for the PCR amplification detection of wheat Microdochium and Fusarium fungate pathogens, especially M. nivale, F. graminearum, F. culmorum, F. avenaceum, F. poae, F. moniliforme or F. roseum. The two different strains of fungi show different symptoms during infection, which may or may not be due to infection. Early identification of the strain causing the infection allows early, and more specific fungicidal treatment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wheat pathogen internal transcribed spacer sequences - used as a basis for primers for the species-specific polymerase chain reaction detection of the pathogens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Beck
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .
ন
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                    Sequence 545
                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Column 23-26; 20pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (NOVS ) NOVARTIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US5827695-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   κeγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fusarium moniliforme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Internal transcribed spacer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             06-JAN-1999
 449
                      242
                                                                     182
                                                                                             348
                                                                                                                    122
                                                                                                                                             288
                                                                                                                                                                                           228
                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                  N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    moniliforme internal transcribed spacer
                                          aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatcttttgaacgcac
                                                                                                         ccccgggcctggcgttggggatcggcgggaagccccctgcgggcacaacgccgtcccccaa
          agcggcgcgcacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagg
                                                                                            cc---agcttggtgttgggagctg------cagtcctgctgcactcccaa
                                                                                                                                           attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagc
                                                                                                                                                                  attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc
                                                                                                                                                                                         aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1998-593995/50
                                                                                                                                                                                                                                          262;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 pathogen identification;
                                                                                                                                                       Similarity
                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                    BP; 148 A; 143 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97US-0905314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97US-0905314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /*tag= a
/note= "ITS1"
336..488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FINANCE CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag- b
/note= "ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                    56.6%;
82.4%;
                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ITS; Microdochium;
                                                                                                                                                                                                                                                     Pred. No. 1
                                                                                                                                                                                                                                                                 Score 180.4;
                                                                                                                                                                                                                                                                                                    125 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S; Microdochium; Fusarium; infection identification;
                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                    129 T;
                                                                                                                                                                                                                                                       .1e-50
                                                                                                                                                                                                                                                                 DB 19;
                                                                                                                                                                                                                                                                                                    0 other;
                                                                                                                                                                                                                                          36;
                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  wheat pathogen; ss.
                                                                                                                                                                                                                                          20;
                                                                                                                                                                                                                                        Gaps
                                             448
                     301
                                                                    241
                                                                                            389
                                                                                                                    181
                                                                                                                                          347
                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                    ence of
sed for
fungal
```

```
RESULT 12
AAV62593
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                02-JUL-1997;
19-APR-1995;
15-OCT-1996;
                                                                                                                                                     Beck
                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                Fusarium
                                                                                                                                                                                                                                                                                                                                                                                              Septoria avenae; Microdochicum nivale; PCR; nucleic acid detection; ss.
                                                                                                                        DNA isolated from fungal RNA,
                                                                                                                                                                                                              02-JUL-1997;
                                                                                                                                                                                                                                         US5814453-A
                                                                                                                                                                                                                                                                                                                                                                  кеy
                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAV62593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAV62593 standard;
                                                                                                                                                                  (NOVS ) NOVARTIS
                                                                                                                                                                                                                            29-SEP-1998
                                                                                                                                                                                                                                                                                                                                                                                                             Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                    Internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             302
                                                                                                                                      1998-541745/46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       aatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aatacccgctgaacttaa
                                                                                                                 - used
                                                                                                                                                                                                                                                                                                                                                                                moniliforme
                                                                                                                                                                                                                                                                                                                                                                                                    transcribed spacer; ITS; ribosomal RNA; rRNA; fungal culmorum; Fusarium graminearum; Fusarium moniliforme; avenae; Microdochicum nivale; Fusarium poae; Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                  moniliforme PCR amplified
                                                                                                                                                                                                                                                                                                                                                                                                                                                (first
                                                                                                                                                                                97US-0887480.
95WO-US04712.
96US-0722187.
                                                                                                                                                                                                                                                                                                       /note= "ITS
179..335
/*tar-
                                                                                                                                                                                                              97US-0887480
                                                                                                                                                                                                                                                                     /*tag= d
/note= "ITS
489..545
                                                                                                                                                                                                                                                                                          /*tag= c
/note= "5.8S
336..488
                                                                                                                                                                                                                                                                                                                                     /note= '
                                                                                                                  for
                                                                                                                                                                                                                                                      /"cag= e
/note= "5'
                                                                                                                                                                   FINANCE CORF
                                                                                                                                                                                                                                                              /*tag-
                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                    /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                entry)
                                                                                                                detecting
                                                                                                                                                                                                                                                                                                                                             3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             545
                                                                                                                                                                                                                                                       end
                                                                                                                                                                                                                                                                                                                                             end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ВР
                                                                                                                                                                                                                                                                                                  rRNA
                                                                                                                        and its internal
                                                                                                               fungal pathogens
                                                                                                                                                                                                                                                       of.
                                                                                                                                                                                                                                                                                                                                            of small subunit rRNA gene"
                                                                                                                                                                                                                                                       large
                                                                                                                                                                                                                                                                                                                                                                                                                                 ITS region DNA
                                                                                                                                                                                                                                                       subunit
                                                                                                               transcribed spacer in plant tissue
                                                                                                                                                                                                                                                       rRNA
                                                                                                                                                                                                                                                                                                                                                                                                     ;; fungal pathogen;
iliforme; plant;
Fusarium avenaceum;
```

Fusarium moniliforme, Septoria avenae or Microdochicum nivale. A method for detecting F. graminearum, F. culmorum, F. moniliforme, F. poae, F. avenaceum and M. nivale isolates is also provided. The method comprises isolating DNA from a plant leaf infected with at least one of the above pathogens and amplifying parts of the ITS sequence of the pathogen(s) by PCR using specific primers from within these sequences. The pathogen(s) are detected by visualising the amplified part of the ITS sequence.

This represents the DNA sequence of the internal transcribed spacer (II region that was PCR amplified from Fusarium moniliforme. The invention provides a DNA molecule isolated from the ribosomal RNA gene region of fungal pathogen, where the DNA molecule consists of an ITS sequence selected from ITS1 and ITS2 of Fusarium culmorum, Fusarium graminearum,

spacer (ITS) of a

Claim 2; Fig 3; 56pp; English

```
RESULT 1
AAV59007
ID AAV5
XX AAV5
XX AAV5
XX Int(
XW Inn(
XW I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SX
SX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 262; Conser
Wheat pathogen internal transcribed spacer sequences - used as a basis for primers for the species-specific polymerase chain reaction detection of the pathogens
                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F. poae internal transcribed
                                                                                                                                                                                                                                                                             01-AUG-1997;
                                                                                                                                                                                                                                                                                                                          27-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                    US5827695-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Internal transcribed spacer; ITS; Microdochium; Fusarium; wheat pathogen;
fungal pathogen identification; infection identification; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              06-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAV59007;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAV59007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                   (NOVS ) NOVARTIS FINANCE CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               62
                                                                                              1998-593995/50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               agcggcgcgcacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         atacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          atcgtcgcggccacgccgttaaac-cccaacttctgaatgttgacctcggatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 atacattggcggtcacgtcg-agcttccatagcgtagtaatttacacatcgttactggta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cc---agcttggtgttgggagctg------cagtcctgctgcactcccaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                poae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BP;
                                                                                                                                                                                                                                97US-0905314.
                                                                                                                                                                                                                                                                             97US-0905314
                                                                                                                                                                                                                                                                                                                                                                                                               /*tag= a
/note= "ITS1"
338..489
/*tag= b
/note= "ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers 31..180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         56.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   c;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 180.4;
Pred. No. 1.1e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               spacer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180.4; DB 17
No. 1.1e-50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     129 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4.
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This sequence represents an internal transcribed spacer (ITS) sequence of the invention. The primer pairs, based on the ITS sequences, are used for the PCR amplification detection of wheat Microdochium and Fusarium fungal pathogens, especially M. nivale, F. graminearum, F. culmorum, F. avenaceum, F. poae, F. moniliforme or F. roseum. The two different strains of fungi show different symptoms during infection, which may or may not be due to infection. Early identification of the strain causing the infection allows early, and more specific fungicidal treatment.
          misc_feature
                                                  misc_feature
                                                                                                                                                                                                Internal transcribed spacer; ITS; ribosomal RNA; rRNA; fungal pathogen; Fusarium culmorum; Fusarium graminearum; Fusarium moniliforme; plant; Septoria avenae; Microdochicum nivale; Fusarium poae; Fusarium avenacew PCR; nucleic acid detection; ss.
                                                                                          misc_feature
                                                                                                                                   misc_feature
                                                                                                                                                                           Fusarium
                                                                                                                                                                                                                                                                  Fusarium poae PCR amplified ITS region consensus DNA sequence
                                                                                                                                                                                                                                                                                                                             AAV62596
                                                                                                                                                                                                                                                                                                                                                        AAV62596 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 546 BP; 150 A; 140 C; 125 G; 131 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 1; Column 25-26; 20pp; English.
                                                                                                                                                                                                                                                                                                  17-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                           509
                                                                                                                                                                                                                                                                                                                                                                                                                                                     302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aatacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           agcggcgcggccacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc 121
                                                                                                                                                                                                                                                                                                                                                                                                                        aatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               atcgtcgcggccacgccgttaaac-cccaacttctgaatgttgacctcggatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  attgattggcggtcacgtcg-agcttccatagcgtagtaatttacacatcgttactggta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                atacagtggcggtcccgccgccagcttccattgcgtagtagctaacacctcgcaactggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cc---agcttggtgttggg------atctgtgtgcaaacacagtccccaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        al Similarity
262; Conserv
                                                                                                                                                                          poae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                               (first entry)
                                                /*tag= a
/note= "3' e
31..180
/*tag= b
/note= "ITS
181..337
        /*tag= c
/note= "5.8S rRNA gene"
338..489
                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                       DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     56.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                           526
                                                                                                      end of small subunit rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9: Score 180; DB
Pred. No. 1.5e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                       ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 19;
1.5e-50;
nes 35;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 546;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ۵.
```

```
õ
                                                                                                                                                                        ş
       ő
                                    망
                                                             õ
                                                                                          망
                                                                                                                                               밁
                                                                                                                                                                                                     В
                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                   ş
                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-JUL-1997;
19-APR-1995;
15-OCT-1996;
                                                                                                                                                                                                                                                                                                                                                                                                         This represents the consensus DNA sequence of the internal transcribed spacer (ITS) region that was PCR amplified from Fusarium poae isolates, T-427, T-534 and T-756. The invention provides a DNA molecule isolated from the ribosomal RNA (rRNA) gene region of a fungal pathogen, where the DNA molecule consists of an ITS sequence selected from ITS1 and ITS2 of Fusarium culmorum, Fusarium graminearum, Fusarium contiliforme, Septoria avenae or Microdochicum nivale. A method for detecting F. graminearum, F. culmorum, F. moniliforme, F. poae, F. avenaceum and M. nivale isolates is also provided. The method comprises isolating DNA from a plant leaf infected with at least one of the above pathogens and amplifying parts of the ITS sequence of the pathogen(s) by PCR using specific primers from within these sequences. The pathogen(s) are detected by visualising the amplified part of the ITS sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA isolated from fungal RNA, sequence - used for detecting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     02-JUL-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Examples;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29-SEP-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US5814453-A
                                                                                                                                                                                                                                                                                                                                                                                Sequence 546 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (NOVS ) NOVARTIS FINANCE CORP
                                      450
                                                                                                                     182
                                                                                                                                                350
            302
                                                                                            391
                                                                                                                                                                          122
                                                                                                                                                                                                      290
                                                                                                                                                                                                                                                        230 aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                                                                                                                                                                                                                                                                            Y Match
                                                                                                                                                                                                                                62
                                                                                                                                                                                                                                                                      2 aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
aatacccgctgaacttaa
                                                                                                       atacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggag
                                                                                                                                                             ccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaa
                                                                                                                                                                                                   attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagc
                                                                                                                                                                                                                   attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc
                                                              agcggcgcgccacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtagg
                                                                                         attgattggcggtcacgtcg-agcttccatagcgtagtaatttacacatcgttactggta
                                                                                                                                               cc---agcttggtgttggg-----
                                    atcgtcgcggccacgccgttaaac
                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Columns 87-88; 56pp; English.
                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97US-0887480.
95WO-US04712.
96US-0722187.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   97US-0887480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "I
                                                                                                                                                                                                                                                                                                                                                                                  150
                                                                                                                                                                                                                                                                                                                         56.4%;
                                                                                                                                                                                                                                                                                                                                                                                Α,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             e
"5' end of large subunit rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "ITS
                                                                                                                                                                                                                                                                                                                                                                                  140
                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                           Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                  ç;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and its internal transcribed spanfungal pathogens in plant tissue
                                                                                                                                                                                                                                                                                                                                                                                  125
                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                               -----atctgtgtgcaaacacagtccccaa
                                                                                                                                                                                                                                                                                                                            180;
No. 1
                                                                                                                                                                                                                                                                                                                                                                                ç;
                                                                                                                                                                                                                                                                                                                                                                                  131 T;
                                                                                                                                                                                                                                                                                                                           DB 19;
.5e-50;
                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                       Length 546;
                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      spacer
                                                                                                                                                                                                                                                                                                              Gaps
                                                               301
                                                                                                                    241
                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                      61
                                                                                                                                                390
                                                                                                                                                                          181
                                                                                                                                                                                                     349
                                                                                                                                                                                                                                                           289
                                                                                                                                                                                                                                                                                                                 4
```

Ş DЬ

Best Loc Matches Query Match

aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62

ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca Local

Similarity

56.3%; 84.4%;

Score 179.6; Pred.

DB 18;

Conservative

0,

Mismatches

39;

Indels Length

12;

Gaps

9

No. 2.1e-50;

```
AAT65099
                                        The present sequence represents the ITS1-ITS4 region of the 5.85 rRNA CC gene from the filamentous fungi Trichoderma harzianum and 32939. CC A novel liquid formulation based on strains of T. harzianum and CC T. viride, has the following composition (w/v%): 0.1-6 sorbitol; CC 0.02-2 KBP03; 0.05-2 KN03; 0.002-1 MgS04.7HZ0; 0.02-2 looper; 0.02-2 zinc; 0.02-2 molybdenum; 0.02-1 boron; 0.02-1 iron; CC 0.02-2 manganese; and a biological component comprising at least one of: CT T. harzianum IMI 352939 (3 x 105 to 10 x 107 conidia/ml), T. harzianum IMI 352941 (CC T. harzianum IMI 352939) (3 x 105 to 10 x 107 conidia/ml), T. harzianum IMI 352941 (CC T. viride CECT 20178. The Trichoderma fungi, alone or in combination, CC are used as gene recipients to increase activity of the formulation as a CC biological control agent against diseases of plants and plant material CC biolixiviation (leaching) agent. It is particularly used e.g. in CC agriculture, forestry and gardening; for controlling microorganisms which CC manufactured products. The antagonistic capacity of the four types of CC manufactured products. The antagonistic capacity of the four types of CC useful for control of plant diseases. Use of this formulation allows CC creduced application of polluting chemical pesticides and is thus more
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Liquid formulation of Trichoderma harzianum and strains - are used as biological control agents plants and plant material and as biolixiviation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              liquid formulation; T. vir
biological control agent;
biolixiviation; leaching;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07-NOV-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Trichoderma harzianum strain IMI 352939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ITS1-ITS4 region; 5.8S rRNA; filamentous fungi; Trichoderma harzianum;
liquid formulation; T. viride; gene recipient; increase activity;
 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              García Ancha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (CNSJ ) CONSEJO SUPERIOR INVESTIGACIONES CIENTIF. (UYSA-) UNIV SALAMANCA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-NOV-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-MAY-1997.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO9716974-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAT65099 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      harzianum
   569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IMI
   ВP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ļ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95ES-0002266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96WO-ES00206
 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Grondona Espana I,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 352939 5.8 S rRNA gene regions
                                                                                                                                                                                                                                                                                                                                                                                                                            37pp; Spanish.
A; 172 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  plant disease; ss.
143
ë;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Monte Vazquez
116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   biodeterioration;
7;
0
other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Trichoderma viride against diseases of agents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ITS1-ITS4.
```

Search completed: August 21, 2002, 22:22:40 Job time: 5780 sec

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Post-processing:
  0000
                                                                                                                                              000
                                                                                                                                                                                                                                                      Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                       102
100
                                                                                                                                                                                                  Score
 seq length: 0 seq length: 2000000000
                                                                                                                                                                                                   Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
 US-10-046-955-6
319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       August 21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13736207 seqs, 6748477542 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenCore version 4.5
Copyright (c) 1993 - 2000 Comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gaaaatgcgataagtaatgt.....ggaatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                             gb_est1:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                     em_esthum:*
                                                                                                                                                                                                                                                                                               em_gss_inv:*
em_gss_pln:*
em_gss_vrt:*
                                                                                                                                                                                                                                                                                                                                                                                     em_htc:*
                                                                                                                                                                                                                                                                                                                                                                                                  em_estro:*
                                                                                                                                                                                                                                                                                                                                                                                                          em_estpl: *
                                                                                                                                                                                                                                                                                                                                                                                                                       em_estov:*
                                                                                                                                                                                                                                                                                                                                                                                                                                   em_estmu:*
                                                                                                                                                                                                                                                                                                                                                                                                                                             em_estin: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  em_estba:*
                                                                                                                                                                                                                                                                                                                                                       gb_est2:*
gb_htc:*
                                                                                                                                                                                                                                                                                                                                           gb_gss:*
                                                                                                                                                                                                   Length
  870
1004
1043
846
893
939
995
1034
1094
1098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2002,
                                                                                                                                                                                                    В
                                                                                                                               BF251183
AI209736
AI213025
AI327878
AI327879
           CNSO6KZ9
CNSO6KGF
CNSO6LUY
CNSO7BZ0
CNSO79EG
CNSO79AOB
CNSO73OQ
CNSO773Q
CNSO776RE
CNSO76RE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21:32:05 ;
                                                                                                                                                                                                                                   SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Search time 5019.06 Seconds (without alignments) 857.836 Million cell updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Compugen Ltd
BF251183 EST418443
AI209736 C7908a1.f
AI213025 96601a1.f
AI327878 30906a1.f
AI327879 30906a1.f
AI327879 30906a1.f
AI402531 T7 end of
AL403531 T7 end of
AL434652 T7 end of
AL434652 T7 end of
AL402886 T7 end of
AL435966 T7 end of
AL435966 T7 end of
AL435967 T7 end of
AL435967 T7 end of
AL431760 T7 end of
                                                                                                                                                                                                   Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cell updates/sec
```

c 4	4	4	4	4	4	ဂ မ	w	u	с 3	w	ω	c 3	ω	w	ဂ သ	N	2	c 2	N	ი 2	2	2	ი 2	N	N	_	c 1	
5	4	w	N	_	0	9	8	7	6	5	4	ω	Ν	1	0	9	8	7	6	u	4	w	2	_	0	9	8	
90.4	90.4	90.4	90.4	90.4	90.4	0		90.4	90.4	0	90.4	0	90.4	0	0	0	0	90.4	0	90.4	٥.	0	0			90.4	0	
28.3																	٠	28.3	٠		•	٠	•	•		•	•	
522	522	521	520	519	518	515	514	508	507	505	503	497	488	485	481	480	480	468	456	453	448	440	436	436	424	392	360	
12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
AZ926778	AQ875718	AQ875703	AQ874020	AQ503306	AZ930375	A2927454	AQ874657	AZ930634	AQ492107	AQ875735	AZ931107	AQ492076	AZ931966	AQ875193	AQ491983	AQ492124	A2931805	AQ875362	AZ923320	AQ874719	AZ916873	AZ931033	AQ492096	AQ874616	AZ923253	A2923588	AZ923094	
AZ926778 476.dis11	V128F5 II	75703 V128E11	874020 V101F6	V62	30375 474	27454 476	74657 V112D7 m	0634 474	92107 V112D10	75735 V128H4	31107	V110D11	1966	75193 V123G12	1983	AQ492124 V114A10 m	1805	5362 V124D8 m	3320	AQ874719 V113E7 mT	373)33 474.dhz6	396 V13	516 V111F4 m	23253 4908.gf	588 4908.gf2	23094 4908.ge8	

ALIGNMENTS

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
BF251183
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Coccidioides immitis.

Coccidioides immitis.

Coccidioides immitis

Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;

Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;

Conygenales; mitosporic Onygenales; Coccidioides.

1 (bases 1 to 214)

Gardner, M. J. and Kirkland, T.

Generation of ESTs from Coccidioides immitis spherule cDNA 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BF251183 214 bp mRNA linear EST 15-NOV-200 EST418443 Coccidioides immitis spherule cDNA library Coccidioides immitis cDNA clone CIAAD94 5' sequence, mRNA sequence.

BF251183
                                                                                                                                                                                                                                                                                                                          Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Drive, Rockville, MD 20850, USA
Tel: 301 838 3519
Fax: 301 838 0208
Email: gardner@tigr.org.
                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished (2000)
Contact: Malcolm J. Gardner
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BF251183.1 GI:16931326
                                                                                                   46
                                                                                                                                                                                                                                                                                                   gardner@tigr.org.
Location/Qualifiers
                                                                                                     Ø
                                                                                                                        /note="Vector: pBluescript SK(-); Site_1: EcoR1; Site_2:
xho1"
                                                                                                                                                              /clone_lib="Coccidioides immitis spherule cDNA library"
/dev_stage="spherule"
/lab_host="SOLR"
                                                                                                                                                                                                                       /organism="Coccidioides
/db_xref="taxon:5501"
/clone="CIAAD94"
32.2%;
84.1%;
                                                                                                   54
                                                                                                   C
Score 102.8; DB 10; Pred. No. 2.1e-18;
                                                                                                     62
                                                                                                   g
                                                                                                   52
                                                                                                                                                                                                                                                                 immitis"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      immitis spherule cDNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EST 15-NOV-2001
```

Query Match Best Local Similarity Matches 116; Conserv

Conservative

Mismatches

Length 214;

0,

Gaps

```
RESULT 2
A1209736/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
            ş
                                        B
                                                               ð
                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                      Ş
                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Focus
                                                                                                                                                 Query Match
Best Local S
Matches 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                   source
              123
                                         142
                                                                                             202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             63
                                                                  63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14
                                                                                                                       w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACGCCTTGTGTGTTGGG 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTGCGCCCTCTGGTATTCCGGGGGGCATGCCTGTTCGAGCGTCATTGCAAACCCTTCAAG 133
                                                     ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cccgggcctggcgttggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
              O
                                        TTGCGCCCCTGGCATTCCGGGGGGCATGCCTGTCCGAGCGTCATTGCTGCCCTCAAGCC
                                                                                             AACTGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAGTCTTTGAACGCACA 143
                                                                                                         aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  c7908a1.fl Aspergillus nidulans 24hr asexual developmental and vegetative cDNA lambda zap library Emericella nidulans cDNA clone c7908a1 3', mRNA sequence.
               123
                                                                                                                                                                                                                                                                                                                                                                                                                          Email: broe@ou.edu
We anticipate the future release
Genetics Stock Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Department of Chemistry and Blochemistry Advanced Center for Genome Technology, Us 620 Parrington Oval, Norman, OK 73019, US Tel: 405 325 4912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kupfer, D., Gray, J., Hausner, J., Lai, H., Martin, Prade, R. and Roe, B.
An Aspergillus nidulans EST Database Unpublished (1998)
Other_ESTs: c7g08al.rl
Contact: Bruce A. Roe, University of Oklahoma,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eurotiales; Tríchocomaceae; Emericella 1 (bases 1 to 213)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EST.
                                                                                                                                                                                                                                                                                                                                                                                                               Seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AI209736.1 GI:3771678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Fungi; Ascomycota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Emericella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Emericella nidulans.
                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                               primer: M13-20
                                                                                                                                                                                                                                  43
                                                                                                                                                  Conservative
                                                                                                                                                                                                                                  ø
                                                                                                                                                                                                                               /clone_lib="Aspergillus nidulans 24hr asexual developmental and vegetative CDNA landda zap library" /tissue_type="wegetative mycella, asexual structures" /note="Vector: pBlueScript SK-; Site_1: EcoRI; Site_2: xhoI; 5' end of cDNA cloned into EcoRI site of pBlueScript 3' end of cDNA cloned into xhoI site of pBluescript" 3' end of cDNA cloned into xhoI site of pBluescript" 68 c 63 g 39 t
                                                                                                                                                                                                                                                                                                                                                         /organism="Emericella nidulans"
/strain="FGSC A26"
                                                                                                                                                                                                                                                                                                                              /db_xref="taxon:162425"
/clone="c7g08a1"
                                                                                                                                                                                                                                                                                                                                                                                      . . 213
                                                                                                                                                                                                                                                                                                                                                                                                  ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nidulans
                                                                                                                                                             31.4%;
89.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      140
                                                                                                                                                 Score 100.2; DB 9
Pred. No. 1.1e-17;
0; Mismatches 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pezizomycotina; Eurotiomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                           of the
                                                                                                                                                                           DB 9;
                                                                                                                                                  13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            University of Oklahoma
                                                                                                                                                                                                                                                                                                                                                                                                                                           CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Martin, W.,
                                                                                                                                                  Indels
                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                           clones
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      broe@ou.edu
                                                                                                                                                                            213;
                                                                                                                                                                                                                                                                                                                                                                                                                                           6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EST 19-OCT-1998
                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                           the
                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         73
                                                                                                                                                                                                                                                                                                                                                                                                                                           Fungal
                                                                                                                                                  0
                                                                RESULT 4
AI327878/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 3
AI213025/c
                                                                                                                                                8
                                                                                                                                                                           Вþ
                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                       Вþ
                                                                                                                                                                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
ACCESSION
                                        DEFINITION
                                                     LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rocus
                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                123 c 123
                                                                                                                       84
                                                                                                                                                                                                      63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C
                                                                                                                       a.
                                                                                                                                                                                                                                                                                       108;
                                                                                                                       84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AI213025.1
                                                                                                                                                                                                                                                                                                                                                                        69
                                                                                                                                                                                                                                                                                                                                                                      Ø
```

```
144 TTGCGCCCCTGGCATTCCGGGGGGCATGCCTGTCCGAGCGTCATTGCTGCCCTCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 204 AACTGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAGTCTTTGAACGCACA 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3 aaatgcgataagtaatgtgaatttgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
Al327878 120 bp mRNA linear EST 28-DEC-199 [0906a1.fl Aspergillus nidulans 24hr asexual developmental and vegetative cDNA lambda zap library Emericella nidulans cDNA clone [0906a1 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Emericella nidulans
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
Eurotiales; Trichocomaceae; Emericella.
1 (bases 1 to 318)
Kupfer,D., Gray,J., Hausner,J., Lai,H., Martir Prade,R. and Roe,B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Department of Chemistry and Biochemistry Advanced Center for Genome Technology, Un 620 Parrington Oval, Norman, OK 73019, US Tel: 405 325 4912
Fax: 405 325 7762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AI213025
318 bp mRNA linear EST 19-OCT-199
y6f01al.fl Aspergillus nidulans 24hr asexual developmental and
vegetative cDNA lambda zap library Emericella nidulans cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        High quality sequence stop:
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished (1998)
Other_ESTs: y6f01a1.rl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seq primer: M13-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          We anticipate the future release of the cDNA clones to the Fungal Genetics Stock Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: broe@ou.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: Bruce A. Roe,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             An Aspergillus nidulans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Emericella nidulans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           y6f01a1 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone_lib="Aspergillus nidulans 24hr asexual developmental and vegetative cDNA lambda zap library" /tissue_type="vegetative mycella, asexual structures" /note="Vector: pBlueScript SK-; Site_1: EcoRI; Site_2: %noI; 5' end of cDNA cloned into EcoRI site of pBlueScript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Emericella nidulans",
strain="FGSC A26"
/db_xref="taxon:162425"
/clone="y6f01a1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GI:3774967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 100.2; DB 9; Pred. No. 1.3e-17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            University of Oklahoma, broe@ou.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       University of Oklahoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Martin, W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eurotiomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              318;
                                                                                                                                                                                              EST 28-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST 19-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
KEYWORDS
                                                                                                                                                                                                                                         VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
AI327879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                          COMMENT
                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                TITLE
                                                                                                                                                                                                                        ORGANISM
                                                                                                                                        AUTHORS
                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TIGCGCCCCTGGCATTCCGGGGGGGCATGCCTGTCCGAGCGTCATTGC 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattac 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Department of Chemistry and Biochemistry Advanced Center for Genome Technology, Uni 620 Parrington Oval, Norman, OK 73019, USA Tel: 405 325 4912
Fax: 405 325 7762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Emericella nidulans
Eukaryota; Fungl; Ascomycota; Pezizomycotina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   We anticipate the future release
Genetics Stock Center
Seq primer: M13-20.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Other_ESTs: j0g06al.rl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unpublished (1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kupfer,D., Gray,J., Hausner,J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eurotiales; Trichocomaceae; 1 (bases 1 to 120)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Emericella nidulans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Bruce A. Roe, University of Oklahoma,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 An Aspergillus nidulans EST Database
                  Contact: Bruce A. Roe, University of Oklahoma, broe@ou.edu Department of Chemistry and Biochemistry
                                                        Unpublished (1998)
Other_ESTs: j0g06a1.f1
                                                                                                                 Kupfer,D., Gray,J., Hausner,J., Lai,H., Martin,W.,
Prade,R. and Roe,B.
                                                                                                                                                         Eurotiales; Trichocomaceae; 1 (bases 1 to 141)
                                                                                                                                                                                                 Emericella nidulans
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
                                                                                                                                                                                                                                                                EST
                                                                                                                                                                                                                                                                                                      j0g06a1 5′, mRNA sequence.
AI327879
                                                                                                                                                                                                                                                                                                                                            AI327879

141 bp mRNA linear EST 28-DEC-199
j0g06al.rl Aspergillus nidulans 24hr asexual developmental and
vegetative cDNA lambda zap library Emericella nidulans cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Email: broe@ou.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Prade, R. and Roe, B.
                                                                                                  An Aspergillus nidulans EST Database
                                                                                                                                                                                                                                         Emericella nidulans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /db_xref="taxon:162425"
/db_xref="taxon:162425"
/clone="j0g06a1"
/clone=lib="Aspergillus nidulans 24hr asexual
/clonetal and vegetative cDNA lambda zap library"
/tissue_type="vegetative mycelia, asexual structures"
/note="Vector: pBlueScript SK-; Site_1: EcoRI; Site_2:
XhOI; 5' end of cDNA cloned into EcoRI site of pBluescript
XhOI; 5' end of cDNA cloned into ShOI site of pBluescript
3' end of cDNA cloned into XhOI site of pBluescript
3' and of cDNA cloned into ShOI site of pBluescript
3' and of cDNA cloned into ShOI site of pBluescript
3' end of cDNA cloned into ShOI site of pBluescript
3' end of cDNA cloned into ShOI site of pBluescript
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Emericella nidulans"
/strain="FGSC A26"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                   GI:4064256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GI:4064255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 92;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Emericella
                                                                                                                                                                                  Emericella.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 9;
1.6e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lai, H., Martin, W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of the cDNA clones
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  University of Oklahoma
University of Oklahoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eurotiomycetes;
                                                                                                                                                                                                     Eurotiomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          broe@ou.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Aramayo, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ţ
                                                                                                                                                                                                                                                                                                                                                                                      EST 28-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the Fungal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
CNS06KZ9
                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 98
                                                                                                             JOURNAL
MEDLINE
                                               TITLE
                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                             JOURNAI
                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                         MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattac 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTGCGCCCCCTGGCATTCCGGGGGGGCATGCCTGTCCGAGCGTCATTGC 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    We anticipate the future release
Genetics Stock Center
Putative full length read
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      620 Parrington Oval,
Tel: 405 325 4912
Fax: 405 325 7762
                                                                                                                                                                                                                Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Bolottin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S., Beolottin-Fukuhara, M., Durrens, P., Lepingla, A., Llorente, B., de-Montigny, J., Dujon, B., Durrens, P., Lepingla, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S., Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                    Casaregola, S., Lepingle, A., Bon, E., Neuveglise, C., Ngu Artiguenave, F., Wincker, P. and Gaillardin, C. Genomic exploration of the hemlascomycetous yeasts: 7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Saccharomyces servazzii.
Saccharomyces servazzii.
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Seq primer:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: broe@ou.edu
Direct Submission
Submitted (07-SEP-2000) Genoscope - Centre National de Sequencage,
2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail
                                                                                                                                                                          Wincker, P. and Weissenbach, J.
Genomic exploration of the hemiascomycetous yeasts: 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AL403531
AL403531.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of Saccharomyces servazzii, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CNS06KZ9
                                                                    Genoscope
                                                                                                                                                                                                                                                                                                                                                                         FEBS Lett. 487
                                                                                                                                                                                                                                                                                                                                                                                               Saccharomyces servazzii
                                                                                                                                                                                                                                                                                                                                                       20584717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       end
                                                                                                                                                                                                                                                                                                                              (bases 1 to 870)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (bases 1 to 870)
                                                                                      (bases 1 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  vector to vector length
                                                                                                                                 Lett. 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ω
ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                   species for molecular evolution Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Z9 870 bp DNA linear GSS 17-JUN-20 of clone AT0AA009C05 of library AT0AA from strain CBS 4311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Emericella nidulans"
/strain="FGSC A26"
/db_xref="taxon:162425"
/clone="j0g06a1"
/clone="j0g06a1"
/clone=lib="Aspergillus nidulans 24hr asexual
developmental and vegetative cDNA lambda zap library"
/tissue_type="vegetative mycelia, asexual structures"
/note="Vector: pBlueScript SK-; Site_1: EcoRI; Site_2:
xho:; 5' end of cDNA cloned into EcoRI site of pBluescript
3' end of cDNA cloned into XhoI site of pBluescript
3' end of cDNA cloned into XhoI site of pBluescript
3' end of cDNA cloned into XhoI site of pBluescript
3' end of cDNA cloned into XhoI site of pBluescript
3' end of cDNA cloned into XhoI site of pBluescript
3' end of cDNA cloned into XhoI site of pBluescript
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GI:12163884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28.8%;
90.7%;
                                                                                                                                                                                                                                                                                                                                                                           (1),
                                                                                                                                 (1),
                                                                                                                                                                                                                                                                                                                                                                             47-51 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 92; DB Pred. No. 1.8e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Norman,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      မ္က
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 9; L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      73019,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of the cDNA clones to the Fungal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Neuveglise, C., Nguyen, H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10;
                                                                                                                                                        studies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4SD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GSS 17-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                            A set of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
```

```
JOURNAL
MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
CNSO6KGF
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESS 10N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                               TITLE
                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                            MEDLINE
                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatcttttgaacgcaca 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAATGCGATACGTAATGTGAATTGCAGAATTCCGTGAATCATCGAATCTTTGAACGCACA 634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CNS06KGF
T3 end of
                                                                                                                                                                      Bolotin-Fukuhara,M., Bon,E., Brottier,P., Casaregola,S., de-Montigny,J., Dujon,B., Durens,P., Lepingle,A., Llorente,B., Malpertuy,A., Neuveglise,C., Ozier-Kalogeropoulos,O., Potier,S., Saurin,W., Tekala,F., Toffano-Nioche,C., Wesolowski-Louvel,M., Wincker,P. and Weissenbach,J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Saccharomyces servazzii
Eukaryota; Fungi; Ascomycota; Saccharomycetana; Saccharomycetales;
Saccharomycetales; Saccharomycetaceae; Saccharomyces.
Direct Submission Submitted (07-SEP-2000) Genoscope - Centre National de Sequencage.
                                                                                                                              Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies
                                                                                                                                                                                                                                                                                                                                                                Casaregola, S., Lepingle, A., Bon, E., Neuveglise, C., Nguyen, H., Artiguenave, F., Wincker, P. and Gaillardin, C. Genomic exploration of the hemiascomycetous yeasts: 7. Saccharomyces servazzii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CNS06KGF 1004 bp DNA linear GSS 17-JUN-20
T3 end of clone AT0AA005B03 of library AT0AA from strain CBS 4311
of Saccharomyces servazzii, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  seqrefegenoscope.cns.fr - Web : www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen
yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii,
Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
lactis var. lactis, Kluyveromyces marxianus var. marxianus, pichia
angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila,
Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to
5 kb were prepared and both extremities were sequenced. See
keywords for description of this sequence and for the sequence of
the other extremity of this insert.
                                                Genoscope.
                                                                                                                                                                                                                                                                              2 (bases 1 to 1004)
Souciet, J.L., Aigle,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AL402853.1 GI:12162391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AL402853
                                                                                                                                                                                                                                                                                                                                            FEBS Lett. 487 (1),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Saccharomyces servazzii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 1004)
                                                                  bases 1 to 1004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        214
                                                                                                            Lett. 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="part of rDNA repeats"
/evidence=not_experimental
/evidence=177 c 214 g 260 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="end : T7" <1. .>870
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /strain="CBS 4311"
/db_xref="taxon:27293"
/clone="ATOAA009C05"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone_lib-"ATOAA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Saccharomyces servazzii"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28.8%;
90.7%;
                                                                                                                                                                                                                                                                              Aigle, M., Artiguenave, F., Blandin, G.,
                                                                                                            (1),
                                                                                                                                                                                                                                                                                                                                              47-51 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 92; DB 12;
Pred. No. 3.8e-15
                                                                                                            (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 870;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GSS 17-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Locus
                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                             TITLE
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CNS06LUY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                             JOURNAL MEDLINE
                                                                                                                                                                                                                                                                                                                 MEDLINE
                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   855 TTGCGCCCTCTGGTATTCCAGGGGCATGCCTGTTTGAGCGTCATTTC 902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     63 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattac 110
                                                                                                                                                   Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G.,
Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S.,
de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B.,
Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potler, S.,
Saurin, W., Tekala, F., Toffano-Nioche, C., Wesolowski-Louvel, M.,
                                                            Genomic exploration of the hemiascomycetous yeasts: 1. yeast species for molecular evolution studies FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                          Casaregola, S., Lepingle, A., Bon, E., Neuveglise, C., Nguyen, H., Artiguenave, F., Wincker, P. and Gaillardin, C. Genomic exploration of the hemiascomycetous yeasts: 7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CNSO6LUY 1043 bp DNA linear GSS 17-JUN
T7 end of clone XAT0AA001G02 of library XAT0AA from strain CBS
of Saccharomyces servazzii, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail: seqref@genoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genoscope.cing program of thirteen yeast species: Saccharomyces bayanus var uvarum, Saccharomyces exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
Genoscope
                                                                                                                                    Saurin, W., Tekaia, F., Toffan Wincker, P. and Weissenbach, J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GSS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AL404672
AL404672.1 GI:12166434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                              20584717
                                                                                                                                                                                                                                                                                                                                                      Saccharomyces servazzii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Saccharomyces servazzii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Saccharomyces servazzii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                    (bases 1 to 1043)
                                                                                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 1043)
                                                                                                                                                                                                                                                                                   (bases 1 to 1043)
                                                                                                                                                                                                                                                                                                                                  Lett. 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /clone_lib="AT0AA"
/note="end : T3"
<1. .>1004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /evidence=not_experimental 211 c 247 g 276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Saccharomyces servazzii"
/Strain="CBS 4311"
/db xref="taxon:27293"
/clone="AT0AA005B03"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="part of rDNA repeats"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28.8%;
                                                                                                                                                                                                                                                                                                                                  (1),
                                                                                                                                                                                                                                                                                                                                47-51 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 92;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    276 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4.le-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1004;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GSS 17-JUN-2001
strain CBS 4311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                              A set of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

Direct Submission

```
RESULT
CNS078ZQ
LOCUS
REFERENCE
AUTHORS
                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                      MEDLINE
                                                                                                                                                                                                                                                                                                               TITLE
                                                                                              TITLE
                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                    MEDLINE
                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 686 TTGCGCCCTCTGGTATTCCAGGGGGCATGCCTGTTTGAGCGTCATTTC 733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63 ttgcgcccgccagtattctggcgggcattgcctgttcgagcgtcattac 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (07-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail: seqrefégenoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                           Souclet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S., de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozler-Kalogeropoulos, O., Potler, S., Malpertuy, A., Neuveglise, C., Ozler-Kalogeropoulos, O., Potler, S., Saurin, W., Tekala, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Jackson, C., Calon, C., Wesolowski-Louvel, M.,
                                                                                                                                                                                                                                         20584723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GSS.
                                           Wincker, P. and Weissenbach, J.
Genomic exploration of the hemiascomycetous yeasts:
yeast species for molecular evolution studies
FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CNS078ZQ 846 bp DNA linear GSS 08-JI
T7 end of clone BB0AA025B03 of library BB0AA from strain CBS
F1chia angusta, genomic survey sequence.
                                                                                                                                                                                                             2 (bases 1 to 846)
Souciet, J.L., Aigle
                                                                                                                                                                                                                                                                                                             Genomic exploration of the hemiascomycetous yeasts: 13. Pichia
                                                                                                                                                                                                                                                                                                                                    and Dujon, B.
                                                                                                                                                                                                                                                                                                                                                    Blandin, G., Llorente, B., Malpertuy, A.,
                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetaceae; Pichia.
                                                                                                                                                                                                                                                                                                                                                                                                                                Pichia angusta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AL434652.1 GI:12218066
                                                                                                                                                                                                                                                                                                                                                                                                                                                Pichia angusta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AL434652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                      20584711
                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 846)
                  (bases 1 to 846)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note-"part of rDNA repeats"
/evidence-not_experimental
213 c 257 g 305 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="end : T7" <1. .>1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /strain="CBS 4311"
/db_xref="taxon:27293"
/clone="XAT0AA001G02"
/clone_lib="XAT0AA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Saccharomyces servazzii"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28.8%;
                                                                                                                                                                                                                                                                      76-81 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 92; DB 12;
Pred. No. 4.1e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10;
                                                                                                                                                                                                                                                                                                                                                Wincker, P., Artiguenave, F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1043;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GSS 08-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                              set of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CNS079EG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                REFERENCE
                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                 SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT
                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                    VERSION
                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                        TITLE
                                                                                                                                 JOURNAL MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 522
                                                                                                                                                                                                                                                                                                                                                    GSS
                                                                                                                                 20584723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             224
```

```
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 581 CTCGGGTTTGGTGATGGGCA 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         123 cccgggcctggcgttgggga 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      462 AAATGCGATACGTAATGTGAATTGCAGATTTTCGTGAATCATTGAATCTTTGAACGCACA 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        63 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (08 SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail: seqref@genoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveromyces thermotolerans, Kluyveromyces lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CNS079EG 893 bp DNA linear GSS 08-JUL-200
T7 end of clone BB0AA028D03 of library BB0AA from strain CBS 4732
of pichia angusta, genomic survey sequence.
AL435182
AL435182.1 GI:12218595
Bolotin-Fukuhara,M., Bon,E., Brottier,P., Casaregola,S., de-Montigny,J., Dujon,B., Durrens,P., Lepingle,A., Llorente,B., Malpertuy,A., Neuveglise,C., Ozier-Kalogeropoulos,O., Potier,S., Saurin,W., Tekala,F., Toffano-Nioche,C., Wesolowski-Louvel,M., Wincker,P. and Weissenbach,J.
                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetales; Saccharomycetaceae; Pichia.

1 (bases 1 to 893)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pichia angusta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
                                                                                                                                                          Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G.
                                                                                                                                                                                                                                                                                                                        Genomic exploration of the hemiascomycetous yeasts: 13. Pichia
                                                                                                                                                                                                                                                                                                                                                             and Dujon, B
                                                                                                                                                                                                                                                                                                                                                                                     Blandin, G., Llorente, B., Malpertuy, A., Wincker, P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pichia angusta.
                                                                                                                                                                                            (bases 1 to 893)
                                                                                                                                                                                                                                                        Lett. 487 (1), 76-81 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /evidence≖not_experimental
165 c 188 g 267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="part of rDNA repeats
contains 35S rDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      contains 35S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <1. .>846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone_lib="BBOAA"
/note="end : T7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Pichia angusta"
/strain="CBS 4732"
/db_xref="taxon:4905"
/clone="BB0AA025B03"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28.6%;
82.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 91.2; DB 12; Pred. No. 6.3e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   others
                                                                                                                                                                                                                                                                                                                                                                                        Artiguenave, F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GSS 08-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ۲,
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                     LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                     CNS06KH6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
                                                                                                                                                                                                                                                                                                                     ACCESSION
                       JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                         TITLE
                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   175 CTCGGGTTTGGTGATGGGCA 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 123 cccgggcctggcgttgggga 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     56 AAATGCGATACGTAATGTGAATTGCAGATTTTCGTGAATCATTGAATCTTTGAACGCACA 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail: segref@genoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyverix, Kluyveromyces thermotolerans, Kluyveromyces lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipplytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies FEBS Lett. 487 (1), 3-12 (2000) 20584711
                                                                                      Casaregola, S., Lepingle, A., Bon, E., Neuveglise, C., Nguyen, H., Artiguenave, F., Wincker, P. and Gaillardin, C. Genomic exploration of the hemiascomycetous yeasts: 7.
                                                                                                                                                                    Saccharomyces servazzii
Saccharomyces servazzii
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;

                                                                                                                                                                                                                                                                      AL402880.1 GI:12162459
GSS.
                                                                                                                                                                                                                                                                                                                 CNS06KH6 939 bp DNA linear GSS 17-JUN-20 T7 end of clone AT0AA005C05 of library AT0AA from strain CBS 4311 of Saccharomyces servazzii, genomic survey sequence. AL402880
                                          Saccharomyces servazzii
FEBS Lett. 487 (1), 47-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Direct Submission
                                                                                                                                                                                                                                                    Saccharomyces servazzii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 893)
(bases 1 to 939)
                                                                                                                                                        (bases 1 to 939)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Pichia angusta"
/strain="CBS 4732"
/db_xref="taxon:4905"
/clone="BBOAA028D03"
/clone_lib="BBOAA"
/note="end: T7"
/note="end: T7"
<1. >893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="part of rDNA repeats contains 35S rDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /evidence=not_experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        160 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 91.2; DB 12
Pred. No. 6.5e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    226 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 893;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
ORIGIN
                                                                                                                                                                                                       SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                     RESULT 12
CNS07A08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                             VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
TITLE
    JOURNAL MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                      TITLE
                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       647 AAATGCGATACGTAATGTGAATTGCAGAATTCCGTGAATCATCGAATCTTTGAACGCACA 706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattac 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AL Submitted (07-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail: seqref@genoscope.cns.fr - Web: www.genoscope.cns.fr) This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces exiguus, Saccharomyces servazzii, 29gosaccharomyces rouxii, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 aaatgogataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTGCGCCCTCTGGTATTCCAGGGGGCATGCCTGTWTGARCGTCATTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Souciet, J.I., Aigle, M., Artiguenave, F., Blandin, G., Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S., de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S., Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J. Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies
                                                                                                                                                                                                                                                                                              CNS07A08

77 end of clone XBB0AA002E07 of library XBB0AA from strain CBS of Pichia angusta, genomic survey sequence.

AL435966
                                                                                                                                                                        Pichia angusta
Pichia angusta
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96;
                                                                                                                Blandin, G., Llorente, B., Malpertuy, A., Wincker, P., Artiguenave, F
                                                                                                                                 Saccharomycetales; Saccharomycetaceae; 1 (bases 1 to 995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Genoscope
    FEBS Lett. 487 (1), 76-81 (2000) 20584723
                                              angusta
                                                                    Genomic exploration of the hemiascomycetous yeasts: 13. Pichia
                                                                                           and Dujon, B
                                                                                                                                                                                                                                                                         AL435966.1 GI:12219379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 939)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="enc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /evidence=not_experimental
198 c 228 g 271 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Saccharomyces
/strain="CBS 4311"
/db_xref="taxon:27293"
/clone="ATOAA005C05"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /clone_lib="ATOAA"
/note="end : T7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="part of rDNA repeats"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   end :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 91.2;
Pred. No. 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 12;
5.6e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10;
                                                                                                                                                               Pichia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                               GSS 08-JUL-2001
strain CBS 4732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
```

Gaps

```
JOURNAL
MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                        RESULT 1
CNS0773Q
                                                                                                                                                                                                                                                                                                                                                                                            ő
                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                     ş
                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                             VERSION
                                                                                                                              ACCESSION
                                                                                                                                                                    DEFINITION
                                                                                                                                                                                          Snoo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                     277
                                                                                                                                                                                                                                                                                                                       123
                                                                                                                                                                                                                                                                                                                                                                                                                                      63 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AL Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage,
2 rue Gaston Cremieux, CP 5706, 91057 EWRY cedex, FRANCE. (E-mail:
5 seqref@genoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen
yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii,
Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia
angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila,
Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to
5 kb were prepared and both extremities were sequenced. See
keywords for description of this sequence and for the sequence of
the other extremity of this insert.
                                                                                                                                                                                                                                                                                     CTCGGGTTTGGTGATGGGCA 296
                                                                                                                                                                                                                                                                                                                 cccgggcctggcgttgggga 142
                                                                                                                                                                                                                                                                                                                                                           TTGCGCCCTCTGGTATTCCAGAGGGCATGCCTGTTTGAGCGTCATTTC-CCTCTCAAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 (bases 1 to 995)
Souciet, J.L., Algle, M., Artiguenave, F., Blandin, G.,
Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S.,
de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B.,
Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S.,
Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M.,
Wincker, P. and Weissenbach, J.
Genomic exploration of the hemiascomycetous yeasts: l. A set of
yeast species for molecular evolution studies
                                                                                                                                          CNS0773Q 999 bp DNA linear GSS (T7 end of clone BB0AA009A07 of library BB0AA from strain plobla angusta, genomic survey sequence.
               Pichia angusta
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Pichia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Direct Submission
                                                                                                             AL432204
AL432204.1
                                                                         Pichia angusta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 995)
(bases 1 to 999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Pichia angusta"
/strain="CBS 4732"
/db_xref="taxon:4905"
/clone="xBB0AA00zE07"
/clone_lib="xBB0AA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="end : <1. .>995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="part of rDNA repeats contains 35S rDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /evidence=not_experimental
173 c 242 g 303
                                                                                                             GI:12215618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 91.2; DB 12;
Pred. No. 6.8e-15;
0; Mismatches 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    303 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  others
                                                                                                                                                                                          GSS 08-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE
REFERENCE
AUTHORS
                                                                                           RESULT 14
CNS079ZZ/c
                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                             δõ
                                                                                                                                                                          닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                         DEFINITION
                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                           718
                                                                                                                                                                          837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20584711
```

```
Query Match 28.6%;
Best Local Similarity 82.9%;
                                                                                                                                                                                                                                                                                                                                                                   123 cccgggcctggcgttgggga 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                              778 TTGCGCCCTCTGGTATTCCAGAGGGCATGCCTGTTTGAGCGTCATTTC-CCTCTCAAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  63 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AL Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVAY cedex, FRANCE. (E-mail: seqref@genoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces exiguus, Saccharomyces servazzli, Zygosaccharomyces rouxil, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Varrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                           CTCGGGTTTGGTGATGGGCA 856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAATGCGATACGTAATGTGAATTGCAGATTTTCGTGAATCATTGAATCTTTGAACGCACA 777
CNS079ZZ 1034 bp DNA linear GSS 08-
T7 end of clone XBB0AA002E02 of library XBB0AA from strain
of pichia angusta, genomic survey sequence.
AL435957
AL435957.1 GI:12219370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Souciet, J.L., Aiglé, M., Artiguenave, F., Blandin, G.,
Bolottin-Fukuhara, M., Bon, E., Brottier, E.,
de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B.,
Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S.,
Saurin, W., Tekala, F., Toffano-Nioche, C., Wesolowski-Louvel, M.,
Wincker, P. and Weissenbach, J.
Genomic exploration of the hemiascomycetous yeasts: 1. A set of
yeast species for molecular evolution studies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Genomic exploration of the hemiascomycetous yeasts: 13. Pichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Blandin, G., Llorente, B., Malpertuy, A., Wincker, P., Artiguenave, F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20584723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEBS Lett. 487 (1), 76-81 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (bases 1 to 999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /evidence=not_experimental 212 c 235 g 313 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          contains 35S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="part of rDNA repeats
contains 35S rDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /clone_lib="BBOAA"
/note="end : T7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Pichia angusta"
/strain="CBS 4732"
/db_xref="taxon:4905"
/clone="BB0AA009A07"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 91.2; DB 12; Pred. No. 6.8e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
```

```
MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
TITLE
JOURNAL
В
                           δ
                                                                                 В
                                                                                                                   οy
                                                                                                                                                                  В
                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                         498
  379
                                                                                                                              63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AL Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage,
2 rue Gaston Cremieux, CP 5706, 91057 EPRY cedex, FRANCE. (E-mail:
3 seqref@genoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen
yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
exiguus, Saccharomyces servazzii, 2ygosaccharomyces rouxii,
Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia
angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila,
Candida tropicalis and varrowia lipolytica. Genomic inserts of 3 to
5 kb were prepared and both extremities were sequenced. See
keywords for description of this sequence and for the sequence of
the other extremity of this insert.
                                                                                                                                                                                                                 w
                                                                                 cccgggcctggcgttgggga 142
                                                                                                                                                                                             aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                         AAATGCGATACGTAATGTGAATTGCAGATTTTCGTGAATCATTGAATCTTTGAACGCACA 439
CTCGGGTTTGGTGATGGGCA 360
                                                                                                                                                                                                                                                            116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bolotin-Fukuhara,M., Bon,E., Brottler,P., Casaregola,S., de-Montigny,J., Dujon,B., Durrens,P., Lepingle, Liorente,B., Malpertuy,A., Neuveglise,C., Ozier-Kalogeropoulos,O., Potier,S., Saurin,W., Tekala,F., Toffano-Nioche,C., Wesolowski-Louvel,M., Wincker,P. and Weissenbach,J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEBS Lett. 487 (1), 76-81 (2000) 20584723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genomic exploration of the hemiascomycetous yeasts: 13. Pichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and Dujon, B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Blandin, G., Llorente, B., Malpertuy, A., Wincker, P., Artiguenave, F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetaceae; Pichia.

1 (bases 1 to 1034)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pichia angusta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pichia angusta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Genoscope
                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 1034)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (bases 1 to 1034)
                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Pichia angusta"
/strain="CBS 4732"
/db_xref="taxon:4905"
/clone="xBB0AA002E02"
/clone_lib="xBB0AA"
/note="end : T7"
<1. >1034
                                                                                                                                                                                                                                                                                                                                                                                      /evidence=not_experimental 241 c 208 g 263
                                                                                                                                                                                                                                                                                                                                                                                                                                 /note-"part of rDNA repeats contains 35S rDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ocation/Qualifiers
                                                                                                                                                                                                                                                                                28.6%;
                                                                                                                                                                                                                                                            0,
                                                                                                                                                                                                                                                          Score 91.2; DB 12;
Pred. No. 6.9e-15;
0; Mismatches 23;
                                                                                                                                                                                                                                                                                                                                                                                          263 t
                                                                                                                                                                                                                                                                                                                                                                                          2 others
                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                  Length 1034;
                                                                                                                                                                                                                                                            1;
                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                            1;
```

```
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CNS076RE/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
멍
                                          ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL MEDLINE
                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
759
                                                                                                     819
                                                63
                        ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                           aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
TTGCGCCCTCTGGTATTCCAGAGGGCATGCCTGTTTGAGCGTCATTTC-CCTCTCAAACC
                                                                                                   AAATGCGATACGTAATGTGAATTGCAGATTTTCGTGAATCATTGAATCTTTGAACGCACA 760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail: seqrefigenoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces lactis var. lactis, Kluyveromyces marxianus var. marxianus, Plchia lactis var. lactis, Kluyveromyces marxianus var. marxianus, Plchia lactis var. lactis, Kluyveromyces marxianus var. marxianus, Plchia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1094 bp DNA linear GSS 08-JUL-200
T7 end of clone BBOAA006D05 of library BBOAA from strain CBS 4732
of Pichla angusta, genomic survey sequence.
AL431760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Bolottin-Fukuhara, M., Bon, E., Brottier, P., Casargola, S., de-Montign, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S., Saurin, W., Tekala, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J. Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetales; Saccharomycetaceae; Pichia.

1 (bases 1 to 1094)

Blandin,G., Llorente,B., Malpertuy,A., Wincker,P., Artiguenave,F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEBS Lett. 487 (1), 76-81 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  angusta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genomic exploration of the hemiascomycetous yeasts: 13. Pichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and Dujon, B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pichia angusta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pichia angusta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AL431760.1 GI:12215174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Genoscope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEBS Lett. 487 (1), 3-12 (2000) 20584711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20584723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 1094)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 1094)
                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                         Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone_lib="BBOAA"
/note="end : T7"
<1. .>1094
                                                                                                                                                                                                                                                                                                                                                       /evidence=not_experimental
269 c 192 g 293 t
                                                                                                                                                                                                                                                                                                                                                                                                       /note="part of rDNA repeats contains 35S rDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Pichia angusta"
/strata="CBS 4732"
/db_xref="taxon:4905"
/clone~"BBOAA006D05"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .1094
                                                                                                                                                                                                                              28.6%;
82.9%;
                                                                                                                                                                                                      0;
                                                                                                                                                                                                                         Score 91.2; DB 12;
Pred. No. 7.1e-15;
                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                      Length 1094;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GSS 08-JUL-2001
                                                                                                                                                                                                   1;
                                                                                                                                                                                                   Gaps
701
                                                                                                                                                                                                      ۲,
```

```
Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9n :
     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score
                                                            nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Issued_Patents_NA:*
1: /cgn2_6/ptodata/1/lna/5A_COMB.seq:*
2: /cgn2_6/ptodata/1/lna/5B_COMB.seq:*
3: /cgn2_6/ptodata/1/lna/6A_COMB.seq:*
4: /cgn2_6/ptodata/1/lna/B_COMB.seq:*
5: /cgn2_6/ptodata/1/lna/PCTUS_COMB.seq:*
5: /cgn2_6/ptodata/1/lna/Dackfiles1.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Minimum Match 0%
Maximum Match 100%
Listing first 45 su
     IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-046-955-6
319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      August 21, 2002, 22:12:23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        383533 seqs, 122816752 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gaaaatgcgataagtaatgt.....ggaatacccgctgaacttaa
     GenCore version (c) 1993 - 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB
US-09-645-073-1
US-09-652-127C-7
US-08-652-127C-8
US-08-652-127C-8
US-08-652-127C-8
US-08-652-127C-8
US-08-652-127C-8
US-08-652-127C-8
US-08-887-480-82
US-08-905-314A-19
US-08-905-314A-21
US-08-905-314A-21
US-08-905-314A-22
US-08-905-314A-22
US-08-905-314A-23
US-08-905-314A-23
US-08-905-314A-20
US-0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Search time 138.45 Seconds (without alignments) 565.959 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4.5
Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               767066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Description
     Sequence
     1. Appli 6. Appli 7. Appli 8. Appli 8.
```

302 aatacccgctgaacttaa 319 	Qy 182 atacagtggcggtcccgccgcagcttccattgcgtagtagc		Match Similarity 88.1%; Pred. No. Best Local Similarity 88.1%; Pred. No. Matches 280; Conservative 0; Mismat. 2 anaatgcgataagtaatgtgaattgcagaattc:	RESULT 1 US-09-645-073-1 US-09-645-073-1 US-09-645-073-1 Sequence 1, Application US/09645073 Patent No. 6287800 Patent No. 6287800 Patent No. 6287800 GEBERAL INFORMATION: APPLICANT: Lee, May APPLICANT: Lee, May APPLICANT: Lee, May APPLICANTON: Production of High Titers FILE REFERENCE: LO2-01NP CURRENT APPLICATION UNUMBER: US/09/645,073 CURRENT FILING DATE: 2000-08-25 PRIOR APPLICATION NUMBER: US 60/151,770 PRIOR FILING DATE: 1999-08-31 NUMBER OF SEQ ID NOS: 1 SOFTWARE: PatentIn version 3.0 SEQ ID NO 1 LENGTH: 2293 TYPE: DNA ORGANISM: Gibberella fujikuroi US-09-645-073-1	ALIGNMENTS	28 118 37.0 353 5 PCT-US95-04712-84 30 115.8 36.3 556 1 US-08-887-480-85 31 115.8 36.3 556 1 US-08-8905-314A-2: 31 115.8 36.3 556 1 US-08-905-314A-2: 31 112.4 35.2 597 1 US-08-968-505-3 33 112.4 35.2 597 3 US-08-968-505-3 34 110.2 34.5 588 1 US-08-968-505-5 36 110.2 34.5 588 3 US-08-968-505-5 37 109.8 34.4 548 1 US-08-33-608-1 37 109.8 34.4 548 1 US-08-323-608-1 39 109.8 34.4 548 1 US-08-722-187-1 39 109.8 34.4 548 2 US-08-722-187-1 39 109.8 34.4 548 2 US-08-722-187-1 40 109.8 34.4 548 1 US-08-722-187-1 40 109.8 34.4 548 2 US-08-722-187-1 41 109.8 34.4 548 1 US-08-722-187-1 42 109.8 34.4 548 1 US-08-722-123-4 43 107.4 33.7 580 1 US-08-968-505-4 44 107.4 33.7 580 1 US-08-968-505-6 45 106.6 33.4 627 1 US-08-233-608-47
--------------------------------	--	--	---	--	------------	---

US-08-905-314A-24

Sequence 24, Appli Patent No. 5827695

Application US/08905314A

GENERAL INFORMATION: APPLICANT: Beck,

Beck, James J.

NUMBER OF SEQUENCES:

TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS TITLE OF INVENTION: USING THE POLYMERASE CHAIN REACTION

```
ş
                                                                                                            US-08-905-314A-24
                                  Matches
                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (919) 541-86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: CG
TELECOMMUNICATION INFORMATION:
TELEPHONE: (919) 541-8587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 561 base pairs
TYPE: nucleic acid
STRANDEDNES: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 5827695artis Corporation Patent Department STREET: 3054 Cornwallis Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET:
                                                                                                                                                                                                                                                                  NAME/KEY: misc_ feature LOCATION: 182..338
OTHER INFORMATION: /not
                                                                                                                                                                                                                                                                                                                              NAME/KEY: misc_feature LOCATION: 31..181 OTHER INFORMATION: /not
                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc_feature LOCATION: 1..30
OTHER INFORMATION: /note
                                                                                                                         NAME/KEY: misc_ feature
LOCATION: 505..561
OTHER INFORMATION: /note= "5' end of large subunit
OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                        OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN: Fusarium avenaceum INDIVIDUAL ISOLATE: 64452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER:
                                                                                                                                                                                                                     NAME/KEY: misc_feature LOCATION: 339..504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY:
aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac 61
                                282;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20779-2257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Research Triangle Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N
C
                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541-8689
                                               75.2%;
88.7%;
                                                                                                                                                                                                                                                                                                                                /note-
                                                                                                                                                                                                                                                                                                                                                                                           rRNA gene"
                                                                                                                                                                                                      /note-
                                                                                                                                                                                                                                                                     /note=
                                                                                                                                                                                                                                                                                                                                                                                                            /note= "3'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US/08/905,314A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              38,241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGC 1944
                                2;
                                               Score 240;
Pred. No. 6.
                                                                                                                                                                                                          STI.
                                                                                                                                                                                                                                                                                                                                  "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and R-4045 (consensus sequence)
                                                                                                                                                                                                                                                                     "5.8S rRNA gene"
                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                             end
                                                                                                                                                                                                          Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                               of small subunit
                        DB 1,
6.8e-68;
27;
                                                              Length 561;
                                  Indels
                                    7;
                                  Gaps
                                    2
```

В õ

253 AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA 312

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 3
US-08-652-127C-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           р
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                            US-08-652-127C-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 6, Application US/08652127C Patent No. 5792611 GENERAL INFORMATION:
                                              Query Match
Best Local Similarity 85.
Matches 272; Conservative
                                                                                                                                                                                                                       TELEPHONE: (613) 232-5815
TELEFAX: (613) 232-5831
INFORMATION FOR SEQ ID NO: 6:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION:
                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 581
                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              302 aatacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     291 ATTGCGCCCGCTGGTATTCCGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGC 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     62
                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/08/652,127C FILING DATE: May 23, 1996 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: Ottawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY: Canada ZIP: K1R 6K7
                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: 24
                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: George A. Seaby
ADDRESSEE: Seaby & MacLean
                                                                                                                                            TOPOLOGY:
                                                                                                                                                         STRANDEDNESS:
                                                                                                                                                                                                                                                   TELEPHONE:
3 aaatgogataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           agoggoggoggcacgcogtaaaacacccaacttctgaatgttgacctcgaatcaggtagg 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATACATTGGCGGTCTCGCTGCAGCCTCCATTGCGTAGCTAACACCTCGCAACTGGAA 464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          atacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cccgggcctggcgttggggatcggcggaagcccctgcgggcacaacgccgtcccccaa 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCGGCGCGCCATGCCGTAAAAC-CCCAACTTCTGAATGTTGACCTCGGATCAGGTAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCCGGGTTTGGTGTTTGGGGATCGGCTCTGCCTTMYGGCGG-----TGCCGCCCCCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AATACCCGCTGAACTTAA
                                                                                                                                                                                                                                                                                                                George A. Seaby
                                                                                                                                                                       nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         880 Wellington Street, Suite 708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Richard C. Hamelin
/ENTION: DETECTION OF PLANT
                                                                                                                                                                                                                                                                                                                                                                                                                ASCII
                                                                                                                                          linear
                                                                                                                                                         double
                                                              66.1%;
85.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             inch diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PATHOGEN FUNGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                 24,034
                                              0;
                                                             Score 211; DB 1; Pred. No. 1.4e-58;
                                                                                                                                                                                                                                                                                     1898
                                               Mismatches
                                                 36;
                                                                            Length 581
                                               Indels
                                                 10;
                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       290
                                               w
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         á
                         ş
                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ş
밁
                                                                                  ş
                                                                                                                                                                                        US-08-652-127C-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-652-127C-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       οy
                                                                                                               Query Match
Best Local Similarity
Matches 271; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 7, Application US/08652127C Patent No. 5792611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                              TELEFAX: (613) 232-5831 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 Inch diskette
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Richard C. Hamelin
TITLE OF INVENTION: DETECTION OF PLANT
TITLE OF INVENTION: PATHOGEN FUNGI
                                                                                                                                                                                                                                                                                                     REGISTRATION NUMBER: 24,034
REFERENCE/DOCKET NUMBER: 189
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 232-815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              313
263
                                                         203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           63
                            63
                                                                                                                                                                                                                   TYPE: nucleic acid
STRANDEDNESS: doub
                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/08, FILING DATE: May 23, 1996 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                              TORNEY/AGENT Seaby
NAME: George A. Seaby
24,034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                     TOPOLOGY:
                                                                                                                                                                                                                                              LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: George A. Seaby
ADDRESSEE: Seaby & MacLean
                                                                                      w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTGCGCCCGCCAGTATTCTGGCGGCCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCC
               ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                         AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA 262
                                                                       aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcggaatctttgaacgcaca 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AATACCCGCTGAACTTAA 561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aatacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCCGGGCTTGGTGTTGGAGATCGGCGTGCCCCCGGGGCG-----CGCCNSCTCCCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TATAGTGGCGGTCTCGCTGTAGCTTCCTCTGCGTAGTAGCACACCTCGC----ACTGGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KlR 6K7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ottawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         880 Wellington Street, Suite 708
                                                                                                                   Conservative
                                                                                                                                                                                                       linear
                                                                                                                                                                                                                    double
                                                                                                                              65.8%;
85.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                             US/08/652,127C
                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                        1898
                                                                                                          Score 210; DB 1; Length 331, Pred. No. 2.8e-58; No. 2.8e-58; Indels
                                                                                                                                           Length 531;
                                                                                                                   10;
                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            122
                                                                                                                  ω
,
```

```
US-08-652-127C-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                 S
                                                  ₽
                                                                             Ş
                                                                                                              밁
                                                                                                                                         ş
                                                                                                                                                                                                                                                    TOPOLOGY: US-08-652-127C-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뫄
                                                                                                                                                                        Query Match
Best Local Sin
Matches 272;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 8, Application US/08652127C Patent No. 5792611 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (613) 232-58
TELEFAX: (613) 232-5831
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Richard C. Hamelin
TITLE OF INVENTION: DETECTION OF PLANT
TITLE OF INVENTION: PATHOGEN FUNGI
                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/08/652,127C
FILING DATE: May 23, 1996
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: George A. Seaby
REGISTRATION NUMBER: 24,034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OPERATING SYSTEM: PC-C
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: 1898
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     123
123 cccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaaa 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        323
                                                  317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   494 AATACCCGCTGAACTTAA 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              434 ACAGCGCGGCCACGCCGTTAAACCCCCCCACTTCTGAAAGGTTGACCTCGGATCAGGTAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       183
                                                                                                              257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP:
                                                                               63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: 880 W
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                   STRANDEDNESS:
                                                                                                                                                                                                                                                                                                TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                            3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                                                                                                                                                               LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cccgggcctggcgttggggatcggcggaagccccctgcgggcacaaacgccgtcccccaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gcggcgcggcacgccgtaaaacaccccaacttctg-aatgttgacctcgaatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga
                                                               ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aatacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TATAGTGGCGGTCTCGCTGTAGCTTCCTCTGCGTAGTAGCACACCTCGC---ACTGGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCGGGCTTGGTGTTGGAGATNGGCGTGCCCCCCGGGGCG------CGCCNGCTCCTAAA
                                                TTGCGCCCGCTAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCC
                                                                                                              AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              K1R 6K7
                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                  583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             880 Wellington Street,
                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IBM PC Compatible
                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Seaby & MacLean
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            George A. Seaby
                                                                                                                                                                                                                                                                                   double
                                                                                                                                                                                     65.7%;
85.5%;
                                                                                                                                                                                                                                                                                                                                                                                232-5815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                        0;
                                                                                                                                                                        Score 209.6; DB 1;
Pred. No. 3.9e-58;
0; Mismatches 34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Suite
                                                                                                                                                                          Indels
                                                                                                                                                                                                    Length
                                                                                                                                                                                                       583;
                                                                                                                                                                        12;
                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        376
                                                  376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                          w
••
```

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 6
US-08-652-127C-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ş
                             밁
                                                        Q
                                                                                         Вþ
                                                                                                                                                   В
                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
S
                                                                                                                                                                                                                                                                                        US-08-652-127C-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 5, Application US/08652127C Patent No. 5792611
                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDIUM TYPE: 3.5 inch diskette
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/652,12
FILING DATE: MS 23, 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: (613) 232-5831 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 10 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Richard C. TITLE OF INVENTION: D
                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: 18
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             183 tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga 242
                                                                                                                                                 377
 179
                               378
                                                             123
                                                                                           318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: 880 w
CITY: Ottawa
                                                                                                         63 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: George A. Seaby REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: George A. Seaby
ADDRESSEE: Seaby & MacLean
                                                                                                                                                                                                                                                                                                                TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                       TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                 LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTAGTGGCGGTCTCGCTGTAGCTTCCTCTGCGTAGTAGCACCACCTCGC---ACTGGGAA 485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aatacccgctgaacttaa 319
||||||||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCCGGGCTTGGTGTTGGGGATCGGCGAGCCTCCGCGCC-----CGCCGTCCCCTAAA 428
caaatacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactg 238
                               CCTTCGGGAGCTTGGTGTTGGGGATCGGCAGGGCGTCCTCCGGGTC---GCGCCGTCCCC 434
                                               TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCA 377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AATACCCGCTGAACTTAA 563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TRY: Canada
K1R 6K7
                                                                                                                                                                                                                                                                                                                                                  594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E: Seaby & MacLean
880 Wellington Street, Suite 708
                                                                                                                                                                                                            60.1%;
ilarity 83.2%;
Conservative
                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                             (613) 232-5815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PATHOGEN FUNGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DETECTION OF PLANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US/08/652,127C
                                                                                                                                                                                                                                                                                                                                                                                                                                                     24,034
                                                                                                                                                                                                                                                                                                                                                                                <u>ب</u>
                                                                                                                                                                                                               0;
                                                                                                                                                                                                             Score 191.6; DB 1
Pred. No. 2.3e-52;
0; Mismatches 44
                                                                                                                                                                                                                                           DB 1;
                                                                                                                                                                                                                44; Indels 10;
                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                  4
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-887-480-82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 82, Application US/08887480 Patent No. 5814453 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: 919-541-8689
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: 15-OCT-1996
ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,;
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS: ADDRESSE: No. 5814453artis Corporation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: Detection of Fungal Pathogens Using the TITLE OF INVENTION: Polymerase Chain Reaction NUMBER OF SEQUENCES: 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION: TELEPHONE: 919-541-8587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA: APPLICATION NUMBER:
                   FEATURE:
                                                                                                                                                                                                                                                                                                            MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             298 taggaatacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           493 AGTCTCGGTGCGGCCACGCCGTAAAACCCCCCAACTTTTTTCTGGTTGACCTCGAATCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         553 TAGGACTACCCGCTGAACTTAA 574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                  NAME/KEY: misc_feature LOCATION: 13..161
OTHER INFORMATION: /not
                                                                                                                                                                        NAME/KEY: misc_feature LOCATION: 1..12
OTHER INFORMATION: /note OTHER INFORMATION: rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: 919-541-8689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET: 520 White CITY: Tarrytown
                                                   NAME/KEY: misc_ feature LOCATION: 162..318
                                                                                                                                                                                                                                                            INDIVIDUAL ISOLATE:
                                                                                                                                                                                                                                                                            ORGANISM: Fusarium culmorum INDIVIDUAL ISOLATE: R-5106, R-5126, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY: U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STATE: NY
                                   OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gagageggegeggecaegeegtaaaacaececaaetteetgaat-gttgacetegaateagg 297
                                                                                                                                                                                                                                                                                                                                                           nucleic acid
DEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             520 White Plains Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Beck, James J
                                                                                                                                                                                                                                                                                                                              DNA (genomic)
                                                                                                                                                                      /note= "3' rRNA gene"
                                                                                                      /note=
                                  /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US 08/722,187
                                                                                                                                                                                                                                                              (consensus sequence)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US/08/887,480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     38,241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGC 1739/PCT/CIP
                                                                                                       "ITS
                                   "5.8S rRNA gene"
                                                                                                                                                                                            end of small subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   492
```

```
á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-887-480-82
                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 8
US-08-905-314A-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 255
                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 19, Application US/08905314A Patent No. 5827695
                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                     ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,241
REFERENCE/DOCKET NUMBER: CGC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (919) 541-857
TELEFAX: (919) 541-8689
INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCATION: 319..472 OTHER INFORMATION: FEATURE:
                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IFC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS TITLE OF INVENTION: USING THE POLYMERASE CHAIN REACTION NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCATION: 473..504
OTHER INFORMATION: /note= "5'
OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                     STREET: 3054 Cornwallis Road
CITY: Research Triangle Park
STATE: NC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
les 255; Conserv
                                                                                                                              CLASSIFICATION:
                                                                                                                                             FILING DATE:
                                                                                                                                                          APPLICATION NUMBER:
                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                   ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCGTCGCGGCYACGCCGTTAAAC-CCCAACTTCTGAATGTTGACCTCGGATCAGGTAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             agcggcgcggcacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagg 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     atacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggag 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CC---AGCTTGGTGTTGGGAGCTG------CAGTCCTGCTGCACTCCCCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaa 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATACATTGGCGGTCACGTCGRAGCTTCCATAGCGTAGTAATTTACATATCGTTACTGGTA 432
                                                                                                                                                                                                                                                            RY: USA
20779-2257
                                                                                                                                                                                                                                                                                                                                                                                                         Beck,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                 No. 5827695artis Corporation Patent Department
                                                                                                                                                                                                                                                                                                                                                                                                        James J
                                                                                                                                 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      57.6%;
81.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note-
                                                                                                                                                          US/08/905,314A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 183.8; DB Pred. No. 7e-50; 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ST1
                                                                         1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            end of large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       504;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ω
••
```

```
Sequence 82, Application vo...

Sequence 82, Application vo...

Patent No. 5955274

Patent No. 5955274

Patent No. 5955274

Patent No. 5955274

APPLICANT: Ligon, James M

APPLICANT: Beck, James J

ITITLE OF INVENTION: Detection of Fungal Pathogens
ITITLE OF INVENTION: Polymerase Chain Reaction

TITLE OF INVENTION: Bolymerase Chain Reaction
                                                                                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                 ₽
                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                        US-08-722-187-82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-905-314A-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                   182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   302 aatacccgctgaa 314
||||||||||||
| 492 AATACCCGCTGAA 504
                                                                                                                                                                                                                                                             433
                                                                                                                                                                                                                                                                                       242
                                                                                                                                                                                                                                                                                                                     373
                                                                                                                                                                                                                                                                                                                                                                                 331
                                                                                                                                                                                                                                                                                                                                                                                                              122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: misc_ feature LOCATION: 1..12 OTHER INFORMATION: /note OTHER INFORMATION: rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: n
                                                                                                                                                                                                                                                                                                                                                                                                                                          271 ATTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGC 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: misc_ feature LOCATION: 473.504
OTHER INFORMATION: /note= "5'
OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Fusarium culmorum
INDIVIDUAL ISOLATE: R-5106, R-5126, and R-5146
INDIVIDUAL ISOLATE: (consensus sequence)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: misc_feature LOCATION: 13..161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: misc_feature LOCATION: 319..472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: misc_ feature LOCATION: 162..318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                       atacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                        attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc 121
                                                                                                                                                                                                                                                                                                                    ATACATTGGCGGTCACGTCGRAGCTTCCATAGCGTAGTAATTTACATATCGTTACTGGTA 432
                                                                                                                                                                                                                                                                                                                                                                               CC---AGCTTGGTGTTGGGAGCTG-------CAGTCCTGCTGCACTCCCCAA
                                                                                                                                                                                                                                                                                                                                                                                                ccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaa 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            57.6%;
81.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "3' end of small subunit
rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 183.8; DB Pred. No. 7e-50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8S rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    end of large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                   Using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               504;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                  372
```

u,

```
; LOCATION: 1.504
; OTHER INFORMATION:
; OTHER INFORMATION:
; OTHER INFORMATION:
US-08-722-187-82
밁
                  Q
                                                   В
                                                                           á
                                                                                                        밁
                                                                                                                               20
                                                                                                                                                             밁
                                                                                                                                                                                     ô
                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/233,608
FILING DATE: 04-APR-1994
ATTORNEY/AGENT INFORMATION:
NAME: Walsh, Andrea C.
REGISTRATION NUMBER: 34,988
REFERENCE/DOCKET NUMBER: CGC 1739
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 919-541-8689
INFORMATION FOR SEQ ID NO: 82:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 504 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: Ciba-Geigy Corporation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HYPOTHETICAL: NO
                                                                                                       492
               302 aatacccgctgaa 314
                                                     433
                                                                                                                                                               331
                                                                                                                                                                                          122
                                                                                                                                                                                                                    271 ATTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGC 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: CIVA CONTROL OF IVE
                                                                                                                                                                                                                                             62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: misc_feature LOCATION: 1..504
                                                   ccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaa 181
                                                                                                                                                                                                                                attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc 121
AATACCCGCTGAA 504
                                                                                                                                                               CC---AGCTTGGTGTTGGGAGCTG-------CAGTCCTGCTGCACTCCCCAA
                                                                                                                                                                                                                                                                                                                               255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hawthorne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ΝX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              USA
                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA (genomic)
                                                                                                                                                                                                                                                                                                                                        57.6%;
81.5%;
                                                                                                                                                                                                                                                                                                                                                                                                           /note= "DNA sequence
internal transcribed
(fculm.con)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US/08/722,187
                                                                                                                                                                                                                                                                                                                            Score 183.8; DB Pred. No. 7e-50; 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                           for the
                                                                                                                                                                                                                                                                                                                                                       DB 2;
                                                                                                                                                                                                                                                                                                                               38;
                                                                                                                                                                                                                                                                                                                                                       Length 504;
                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                           region of Fusarium
                                                                                                                                                                                                                                                                                                                               19;
                                                                                                                                                                                                                                                                                                                              Gaps
                                                      491
                                                                                                                                                                372
                                                                                                                                                                                                                                                                                                                                                                                                                            culmorum
                                                                                                                                                                                                                                                                                                                               ω
•-
```

RESULT

```
δÃ
                                                                                                                        멍
                                                                                                                                                      Ş
                                                                                                                                                                                          B
                                                                                                                                                                                                                        οy
                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                           ş
                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PCT-US95-04712-82
                                                                                                                                                                                                                                                                                                                                                                                                                PCT-US95-04712-82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 82, Application PC/TUS9504712 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                               Matches 255;
                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/233
FILING DATE: 04-APR-1994
ATTORNEY/AGENT INFORMATION:
NAME: Walsh, Andrea C.
REGISTRATION NUMBER: 34,988
REFERENCE/DOCKET NUMBER: CGC
TELECOMMUNICATION INFORMATION:
TELEPHONE: 919-541-8666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: 919-541-866
TELEFAX: 919-541-8689
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: Patentin Rel
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: Detection of Fungal Pathogens TITLE OF INVENTION: Polymerase Chain Reaction NUMBER OF SEQUENCES: 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Ligon, James M
APPLICANT: Beck, James J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE:
                                                      373
                                                                                                                        331
                                                                                                                                                                                                                                                         242 agcggcgcgggccacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagg
                                                                                      182
                                                                                                                                                          122
                                                                                                                                                                                           271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM PC
OPERATING SYSTEM:
                                                                                                                                                                                                          62 attgcgcccgccagtattctggcgggcatgcctgttcgaggcgtcattacaaccctcaggc 121
                                                                                                                                                                                                                                                                                                                                                                                                                            LOCATION: 1.504
OTHER INFORMATION: /note= "DNA sequence
OTHER INFORMATION: internal transcribed
OTHER INFORMATION: (fculm.con)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: Hawthorne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Ciba-Geigy co
STREET: 7 Skyline Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: misc_feature LOCATION: 1..504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRANDEDNESS:
                                                     ATACATTGGCGGTCACGTCGRAGCTTCCATAGCGTAGTAATTTACATATCGTTACTGGTA 432
                                                                      atacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggag 241
                                                                                                                      CC---AGCTTGGTGTTGGGAGCTG----
                                                                                                                                            ccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaa 181
                                                                                                                                                                                          ATTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             USA
                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      E: Floppy disk
IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ciba-Geigy Corporation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N
O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 single
                                                                                                                                                                                                                                                                                                                                           57.6%;
81.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US 08/233,608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PCT/US95/04712
                                                                                                                                                                                                                                                                                                                             1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGC 1739
                                                                                                                                                                                                                                                                                                                                           Score 183.8; DB Pred. No. 7e-50;
                                                                                                                        ----CAGTCCTGCTGCACTCCCCAA
                                                                                                                                                                                                                                                                                                                                                           DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                spacer region of Fusarium culmorum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  for the
                                                                                                                                                                                                                                                                                                                             38;
                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Using
                                                                                                                                                                                                                                                                                                                               19;
                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                        372
                     301
                                                                                                                                                                                          330
                                                                                                                                                                                                                                                                                                                               w
••
```

```
ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-887-480-84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 84, Appli
Patent No. 5814453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/
FILING DATE: 15-OCT-1996
ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION: APPLICANT: Beck,
                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: 919-541-8689
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: 38,241
REFERENCE/DOCKET NUMBER: CGC 1739/PCT/CIP
TELECOMMUNICATION INFORMATION:
TELEPHONE: 919-541-8587
TELEFAX: 919-541-8587
                                                                                                                                   NAME/KEY: misc_feature LOCATION: 31..178 OTHER INFORMATION: /not FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                         NAME/KEY: misc_feature LOCATION: 179..335
OTHER INFORMATION: /note FEATURE:
                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      433
                 FEATURE:
                                                                                                                                                                                                                                                                                               ORGANISM: Fusarium moniliforme INDIVIDUAL ISOLATE: 4551 IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           492 AATACCCGCTGAA 504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        302
                                                                                                                                                                                                         NAME/KEY: misc_feature LOCATION: 1..30
OTHER INFORMATION: /note OTHER INFORMATION: rRNA
                                                                                                                                                                                                                                                                                   CLONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET:
                               OTHER INFORMATION:
                                             NAME/KEY: misc_feature LOCATION: 336..488
                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                          STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aatacccgctgaa 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCGTCGCGGCYACGCCGTTAAAC-CCCAACTTCTGAATGTTGACCTCGGATCAGGTAGG 491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10591
                                                                                                                                                                                                                                                                                                                                                                                                    nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tarrytown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ΝY
                                                                                                                                                                                                                                                                                    pCRFMON1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Application US/08887480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               520 White Plains Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Beck, James
misc_ feature
                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             No. 5814453artis Corporation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Floppy disk
                                                                                                                                                                                                                                                                                                                                                           DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                         single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Detection of Fungal Pathogens Using Polymerase Chain Reaction
                                                                                                                                                   /note-
                                                                                                                                                                                                           /note= "3'
rRNA gene"
                                                                                       /note-
                               /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US/08/887,480
                                                                                                                                                                                                                                                                                                                                                                                                                                                      84:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       08/722,187
                                                                                            ű
                                "ITS 2"
                                                                                                                                                   "ITS 1"
                                                                                         8S rRNA gene"
                                                                                                                                                                                                                            end of small subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
```

```
US-08-887-480-84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-905-314A-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 262; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 21, Application US/08905314A Patent No. 5827695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                       NFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                         REFERENCE/DOCKET NUMBER: CG
TELECOMMUNICATION INFORMATION:
TELEPHONE: (919) 541-8587
                                                                                                                                                                             CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS: No. 5827695artis Corporation Patent Department
                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 545 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    182 atacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggag 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        508 AATACCCGCTGAACTTAA 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        302 aatacccgctgaactt&a 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         242 agcggcgcggccacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagg 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   348 CC---AGCTTGGTGTTGGGAGCTG--------CAGTCCTGCTGCTGCACTCCCCAA 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122 ccccgggcctggcgttggggatcggcgggaagccccctgcgggcacaacgccgtcccccaa 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               390 ATACATTGGCGGTCACGTCG-AGCTTCCATAGCGTAGTAATTTACACATCGTTACTGGTA 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LOCATION: 489..545
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                    APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                  STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: Research Triangle Park
                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET:
                  STRANDEDNESS:
                                                                                                            TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCGTCGCGGCCACGCCGTTAAAC - CCCAACTTCTGAATGTTGACCTCGGATCAGGTAGG
                                                                                                                                                                                                                                                                                                                                                                                               20779-2257
                                   nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                  r
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3054 Cornwallis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Beck,
                                                                                                          (919) 541-8689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                 USA
linear
                  single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             James
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DETECTION OF WHEAT FUNGAL PATHOGENS USING THE POLYMERASE CHAIN REACTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     56.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "5' end of large subunit
rRNA gene"
                                                                                                                                                                                                                                                                       US/08/905,314A
                                                                                                                                                                               38,241
                                                                                         21:
                                                                                                                                                                င္ပင္ပ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 180.4; DB 1;
Pred. No. 8.8e-49;
0; Mismatches 36;
                                                                                                                                                                1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 545;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4
```

```
RESULT 13
US-08-887-480-96
                                                                                                                                                                                               В
                                                                                                                                                                                                                ρ
                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                               ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-905-314A-21
                                                                                                                  Sequence 96, Application US/08887480 Patent No. 5814453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                     GENERAL INFORMATION:
            NUMBER OF SEQUENCES: 96
CORRESPONDENCE ADDRESS:
ADDRESSEE: NO. 5814453artis Corporation
STREET: 520 White Plains Road
                                                             APPLICANT: Beck, James J
TITLE OF INVENTION: Detection of Fungal Pathogens
TITLE OF INVENTION: Polymerase Chain Reaction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                 122 ccccgggcctggcgttggggatcggcgggaagccccctgcgggcacaaacgccgtcccccaa 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                         508
                                                                                                                                                                                                                                                 449
                                                                                                                                                                                                                                                                                                                                                      348
                                                                                                                                                                                                                                                                                                                                                                                                       288 ATTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: misc_ feature
LOCATION: 489:.545
OTHER INFORMATION: /note= "5'
OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: misc_ feature LOCATION: 1..30
OTHER INFORMATION: /note OTHER INFORMATION: rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLONE: pCRFMON1
                                                                                                                                                                                                                                                                                                                                                                                                                                 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCATION: 336..488
OTHER INFORMATION: /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Fusarium moniliforme INDIVIDUAL ISOLATE: 4551
STREET: 520 Whi
CITY: Tarrytown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity 82.4 es 262; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OTHER INFORMATION: /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: misc_feature LOCATION: 179..335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc_feature LOCATION: 31..178
                                                                                                                                                                                                                                              ageggegeggecaegeegtaaaacaeeceaaettetgaatgttgaeetegaateaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                      AATACCCGCTGAACTTAA 525
                                                                                                                                                                                                          aatacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                     CC---AGCTTGGTTTGGGAGCTG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "3'
rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         56.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 180.4; DB 1; Pred. No. 8.8e-49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             end of small subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of large subunit
                                                                                                                                                                                                                                                                                                                                                      -----CAGTCCTGCTGCACTCCCCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 545;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                             Using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                           287
                                                                                                                                                                                                                                                 507
                                                                                                                                                                                                                                                                                                                                                      389
                                                                                                                                                                                                                                                                                                                                                                                                       347
                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4.
```

```
ΩV
                                                     밁
                                                                                                                                                                         ; NAME/KEY; misc_feature
; LOCATION: 490..546
; OTHER INFORMATION: /note
; OTHER INFORMATION: rNA
US-08-887-480-96
 В
                                                                            Q
                                                                                                                       Query Match
Best Local
                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: CG
TELECOMMUNICATION INFORMATION:
TELEPHONE: 919-541-8587
TELEPAX: 919-541-8689
INFORMATION FOR SEQ ID NO: 96:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US 0)
FILING DATE: 15-0CT-1996
ATTORNEY_AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 546 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IMMEDIATE SOURCE: CLONE: PCRFpoa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: I
                                                                                                                                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                        FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
 290
                                                  STATE: N
COUNTRY:
ZIP: 105
                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: misc_feature LOCATION: 1..30 OTHER INFORMATION: /note OTHER INFORMATION: rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN: Fusarium poae
INDIVIDUAL ISOLATE: T-427, T-
INDIVIDUAL ISOLATE: sequence)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                           62
                                                                                                                                                                                                                                                                        NAME/KEY: misc_feature LOCATION: 338..489
                                                                                                                                                                                                                                                                                                                             NAME/KEY: misc_featoCATION: 181..337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                     Local
                                                                                                                                                                                                                                                           OTHER INFORMATION:
                                                                                                                                                                                                                                                                       LOCATION:
                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER:
           attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc 121
ATTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGC
                                                                                                        al Similarity
262; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pCRFpoaeT427(1-2), pCRFpoaeT534(2-2),
pCRFpoaeT756(3-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fusarium poae
AI ISOLATE: T-427, T-534,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
31..180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    single
                                                                                                                                                                                                                                                                                                                                          feature
                                                                                                                    56.48;
                                                                                                                                                                                       /note= "5'
rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "3'
rRNA gene"
                                                                                                                                                                                                                                                                                                                /note-
                                                                                                                                                                                                                                                           /note-
                                                                                                                                                                                                                                                                                                                                                                     /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US/08/887,480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  08/722,187
                                                                                                       Score 180; DB Pred. No. 1.2e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   င္ပင္ပ
                                                                                                        <u>,,</u>
                                                                                                                                                                                                                                                                                                                                                                       STI.
                                                                                                                                                                                                                                                            "ITS
                                                                                                                                                                                                                                                                                                                "5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1739/PCT/CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                       end
                                                                                                                                                                                                      end
                                                                                                                                                                                                                                                              2
                                                                                                                                                                                                                                                                                                                                                                        -
                                                                                                                                                                                                      of large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                       of small subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and T-756 (consensus
                                                                                                                    DB 1;
                                                                                                          35;
                                                                                                                                 Length 546;
                                                                                                        Indels
                                                                                                          21;
                                                                                                        Gaps
349
```

٠.

٠.

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 14
US-08-905-314A-22
; Sequence 22, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         á
                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION:
TELEPHONE: (919) 541-8587
TELEFAX: (919) 541-8689
INFORMATION FOR SEQ ID NO: 22:
SEQUENCE CHARACTERISTICS:
LENGTH: 546 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Patent No. 5827695
GENERAL INFORMATION:
APPLICANT: Beck,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS TITLE OF INVENTION: USING THE POLYMERASE CHAIN REACTION
                                                                                                                                                                                                                                        TOPOLOGY: linear MOLECULE TYPE: DNA ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: Melgs, J. Timothy
REGISTRATION NUMBER: 38,241
REFERENCE/DOCKET NUMBER: CGC 1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182
                                              FEATURE:
                                                                                                                                                                          IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CUMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Ralass
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              302
                                                                                                                                            CLONE:
               NAME/KEY:
LOCATION:
                                                                                                                                                                                         ORGANISM: Fusarium poae INDIVIDUAL ISOLATE: T-427, T-534, and INDIVIDUAL ISOLATE: sequence)
                                                          NAME/KEY: misc_feature LOCATION: 1..30
OTHER INFORMATION: /note OTHER INFORMATION: rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/905,314A FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ZIP: 20779-2257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        agcggcgcgcgccacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aatacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CC---AGCTTGGTGTTGGG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCGTCGCGGCCACGCCGTTAAAC-CCCAACTTCTGAATGTTGACCTCGGATCAGGTAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AATACCCGCTGAACTTAA 526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSEE: NO. 5827695artis Corporation
T: 3054 Cornwallis Road
Research Triangle Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N
C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Application US/08905314A
                                                                                                                                          pCRFpoaeT427(1-2), pCRFpoaeT534(2-2),
pCRFpoaeT756(3-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             USA
                  misc_feature
31..180
                                                                                                                                                                                                                                                          DNA (genomic)
                                                                                                                                                                                                                                                                                      single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      James J.
                                                             /note= "3' end of small subunit rRNA gene"
/note- "ITS 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----ATCTGTGTGCAAACACAGTCCCCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Version
                                                                                                                                                                                                             T-756 (consensus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Patent Department
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
```

```
Q
                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 15
US-08-887-480-83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-08-905-314A-22
                                                                                                                                                                                                                                                                                                                                                    Sequence 83, Application US/08887480
Patent No. 5814453
GENERAL INFORMATION:
APPLICANT: Beck, James J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:

NAME/KEY: misc_ feature

LOCATION: 490..546

OTHER INFORMATION: /note- "5' end of large subunit

OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/722,187
FILING DATE: 15-0CT-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 5814453artis Corporation
STREET: 520 White Plains Road
                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   182 atacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggag 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               350 CC---AGCTTGGTGTTGGG--------ATCTGTGTGCAAACACAGTCCCCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           290 ATTGCGCCCGCCAGTATTCTGGCGGCCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         62 attycycccyccaytattctyycygycatycctyttcyaycytcattacaaccctcayyc 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY:
LOCATION:
                                                            FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                            STREET: 520 Whit
                                                                                                                                                                                                                 COUNTRY:
                                                                                           APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaa 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       agcggcgcggcacgcgtaaaacacccaacttctgaatgttgacctcgaatcaggtagg 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCCTCGCGCCACGCCGTTAAAC-CCCAACTTCTGAATGTTGACCTCGGATCAGGTAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTGATTGGCGGTCACGTCG - AGCTTCCATAGCGTAGTAATTTACACATCGTTACTGGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               262;
                                                                                                                                                                                                    10591
                                                                                                                                                                                                                                   X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_ feature
181..337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature 338..489
                                                                                                                                                                    Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              56.4%;
                                                                                                                                                                                                                                                                                                            Polymerase
96
                                                                                                                                                                                                                                                                                                                           Detection of Fungal Pathogens Using Polymerase Chain Reaction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note-
                                                                                           US/08/887,480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 180; DB 1; Length 546; Pred. No. 1.2e-48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                           Version #1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ω
5:
                                                                                                                            . 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              508
```

KEYWORDS SOURCE ORGANISM

ACCESSION VERSION

RESULT 12
FPU34558
LOCUS
DEFINITION

ş 밁 á В

밁

529 301 469 241 409

```
Query Match
Best Local S
Matches 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                       ctgaac 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                         ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg 300
                                                                                   gcggtctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactggtacgcggcgc
                                                                                                                                        cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                CTGAAC 534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGGTCTCGCTGCAGCTTCCATTGCGTAGTAGTAAAACCCTCGCAACTGGTACGCGGCGC
                                                                    CCGGTCTCGCTGCAGCTTCCATTGCGTAGTAGTAAAACCCTCGCAACTGGTACGCGGCGC
                                                                                                                            CCCGGGTTTGGTGTTGGGGGATCGGCGAGCCCTTGCGGCAAGCCGGCCCCGAAATCTAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 (bases 1 to 534)
2 (bases 1 to 534)
6 (Donnell,K., Cigelnik,E. and Nirenberg,H.I.
Molecular systematics and phylogeography of the Gibberella fujikuroi species complex
Mycologia 90 (3), 465-493 (1998)
3 (bases 1 to 534)
6 (Donnell,K. and Cigelnik,E.
Direct Submission
Submitted (21-AUG-1995) Kerry O'Donnell, NCAUR, USDA, 1815
University St., Peoria, IL 61604, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     O'Donnell,K. and Cigelnik,E.
O'Donnell,K. and Cigelnik,E.
Two divergent intragenomic rDNA ITS2 types within lineage of the fungus Fusarium are nonorthologous Mol. Phylogenet. Evol. 7 (1), 103-116 (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pusarium proliferatum
Eukaryota; Fungi, Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; Nectriaceae; Gibberella; Gibberella fujikuroi com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fusarium proliferatu
U34558
U34558.1 GI:1808934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fusarium proliferatum.
                                                                                                                                                                                                                                                                                                                                                                                      135
                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               proliferatum
                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Fusarium proliferatum"
/strain="NRRL 22944"
/db_xref="taxon:42674"
1. .534
                                                                                                                                                                                                                                                                                                                                                                                 /product="internal transcribed spacer"
149 c 130 g 120 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ocation/Qualifiers
                                                                                                                                                                                                                                                                                                             97.7%;
99.3%;
                                                                                                                                                                                                                                                                                                             Score 302.8; DB 8
Pred. No. 8.4e-83;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            534 bp DNA
NRRL 22944 internal
                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                         DB 8; Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               linear P
transcribed
                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     monophyletic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PLN 15-JUL-1998
d spacer RNA.
                                                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                468
                                                                     468
                                                                                                240
                                                                                                                           408
                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              complex
                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 13
FAU61670
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
                                                     RESULT 1
FSU61693
LOCUS
                                                                                                                            밁
                                                                                                                                                    Ş
                                                                                                                                                                                   밁
                                                                                                                                                                                                        ρy
                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                            529
                                                                                                                                                       301
                                                                                                                                                                                  469
                                                                                                                                                                                                                                          409
                                                                                                                                                                                                                                                                                                349
                                                                                                                                                                                                                                                                                                                                                                                                                 229
                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                          289
                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                              1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                           . ctgaac
                                                                                                                                                                                  cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                    ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ctgaac
                                                                                                                            CTGAAC
                                                                                                                                                                                                                                                                                                 CCCGGGTTTGGTGTTGGGGATCGGTGAGCCCTTGCGGCAAGCCGGCCCCGAAATCTAGTG
                                                                                                                                                                                                                                                                                                                                                        TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                               AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        303;
                         FSU61693
Fusarium
U61693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fusarium
U61670
U61670.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fujikuroi species complex
Mycologia 90 (3), 465-493 (1998)
2 (bases 1 to 534)
0'Donnell,K., Cigelnik,E. and Nirenberg,H.I.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 (bases 1 to 534)
O'Donnell,K., Cigelnik,E. and Nirenberg,H.I.
Molecular systematics and phylogeography of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11
             U61693.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (21-JUN-1996) USDA/ARS/NCAUR, 1815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes; Hypocreales; Nectriaceae; Gibberella; Gibberella fujikuroi com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fusarium annulatum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fusarium annulatum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FAU61670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                306
                                                                                                                            534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              534 bp DNA linear PLN 15-JU annulatum internal transcribed spacer ribosomal RNA.
                                      sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="internal transcribed spacer" 148 c 130 g 121 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Fusarium
/strain="NRRL13614"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /db_xref="taxon:48484"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GI:3320344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97.2%;
99.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 301.2; DB 8; Pred. No. 2.6e-82; 0; Mismatches 3;
                                                      534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           annulatum'
                                                      þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the
                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     University, Peoria,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gibberella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  534;
                                                      NTd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PLN 15-JUL-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                      17-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   complex.
                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                             300
                                                                                                                                                                                                                                         468
                                                                                                                                                                                                                                                                                                 408
                                                                                                                                                                                                                                                                                                                                                       348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
```

JOURNAL REFERENCE AUTHORS TITLE JOURNAL

FEATURES

S

밁

469 241 409 181 349 121 289

ð

В

밁

Ş 밁 δ В Ş

229

61

BASE COUNT ORIGIN

JOURNAL MEDLINE REFERENCE AUTHORS TITLE

REFERENCE AUTHORS TITLE

```
REFERENCE
AUTHORS
TITLE
                                                                                                                    KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                 ACCESSION
VERSION
                                                                                                                                                                                                                                                        RESULT 1
AF165873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
                                                                                                                                                                                                                                           COCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 303; Conserv
 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                     529
                                                                                                                                                                                                                                                                                                                                                                              469
                                                                                                                                                                                                                                                                                                                                                                                                                                        409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                       15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                    CTGAAC
                                                                                                                                                                                                                                                                                                                                             ctgaac 306
                                                                                                                                                                                                                                                                                                                                                                                                                                     GCGGTCTCGCTGCAGCTTCCATTGCGTAGTAGTAAAACCCTCGCAACTGGTACGCGGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                     9cggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcggcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTCGGGTTTGGTGTTTGGGGATCGGCGAGCCCTTGCGGCAAGCCGGCCCCGAAATCTAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGCGCCCGCCAGTATTCTGGCGGCCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                            Gibberella fujikuroi.
Gibberella fujikuroi
Gibberella fujikuroi
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Eukaryota; Nectriaceae; Gibberella; Gibberella fujikuroi complex.
                 Hypocreales; Nectriaceae; Gibberella; Gibberella fujikuroi compution (bases 1 to 502)

I (bases 1 to 502)

Iwen, P.C., Henry, T. and Hinrichs, S.H.

Sequence analysis of the internal transcribed spacer regions of Fusarium species most commonly associated with human invasive
                                                                                                                                                                               AF165873 502 bp DNA linear F Gibberella fujikuroi internal transcribed spacer 1, 5 RNA gene and internal transcribed spacer 2, complete 28s ribosomal RNA gene, partial sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fusarium sp. NRRL25309.
Fusarium sp. NRRL25309
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Eukaryota: Nectriaceae; Gibberella; Gibberella fujikuroi com
Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 (bases 1 to 534)
O'Donnell,K., Cigelnik,E. and Nirenberg,H.I.
Molecular systematics and phylogeography of the
                                                                                                                                                                  AF165873.1 GI:5524730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Direct Submission
Submitted (21-JUN-1996) USDA/ARS/NCAUR, 1815
IL 61604, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       fujikuroi species complex
Mycologia 90 (3), 465-493 (1998)
2 (bases 1 to 534)
O'Donnell,K., Cigelnik,E. and Nirenberg,H.I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           135
                                                                                                                                                                                                                                                                                                                    534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           D)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Fusarium sp.
/strain="NRRL25309"
/db_xref="taxon:122382"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product="internal transcribed spacer"
148 c 130 g 121 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97.28;
99.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 301.2;
Pred. No. 2.6e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2; DB 8;
2.6e-82;
hes 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NRRL25309"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N. University, Peoria,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gibberella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               534;
                                                                                                                                                                                                        PLN 18-JUL-1999
5.8S ribosomal
e sequence; and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                     468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 complex.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

```
BASE COUNT
ORIGIN
  밁
                       Ş
                                                 ₽
                                                                    Qy
                                                                                               밁
                                                                                                                     Ş
                                                                                                                                                  밁
                                                                                                                                                                       δÃ
                                                                                                                                                                                                 В
                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                 rrna
                                                                                                                                                                                                                                                                                                                                                                                                                         misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                  rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_RNA
                                                 439
  499
                         301
                                                                        241
                                                                                                 379
                                                                                                                         181
                                                                                                                                                 319
                                                                                                                                                                        121
                                                                                                                                                                                                  259
                                                                                                                                                                                                                                                 199
                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                          ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
CTGA 502
                        ctga
                                             GGCCAAGCCGTTAAACCCCCCAACTTCTGAATGTTGACCTCGGATCAGGTAGGAATACCCG
                                                          99CCaagCCgttaaacCCCCcaacttctgaatgttgacCtcggatcaggtaggaatacccg 300
                                                                                            GCGGTCTCGCTGCAGCTTCCATTGCGTAGTAGTAAAACCCTCGCAACTGGTACGCGGCGC
                                                                                                         9c99tctc9ct9ca9cttccattgcgta9ta9taaaaccctcgcaactg9tacgcggc
                                                                                                                                             CCCGGGTTTGGTGTTTGGGGATCGGCGAGCCCTTGCGGCCAAGCCGGCCCCGAAATCTAGTG
                                                                                                                                                                                                                                                                                              al Similarity 99.3
302; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (07-JUL-1999) Pathology and Microbiology, University of Nebraska Medical Center, 986485 Nebraska Medical Center, Omaha, NI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Iwen,P.C., Henry,T. and Hinrichs,S.H.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    68198-6495, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 (bases 1 to 502)
                        304
                                                                                                                                                                                                                                                                                                                                                                           127
                                                                                                                                                                                                                                                                                                                                                                           ø
                                                                                                                                                                                                                                                                                                                                                                                                                         /product="5.8S ribosomal RNA" 305. .470
                                                                                                                                                                                                                                                                                                                                                                                              /product="internal transcribed 471...>502
                                                                                                                                                                                                                                                                                                                                                                                    /product="28S ribosomal RNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product="internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="ITS1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /variety="intermedium"
/db_xref="ATCC:48843"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Gibberella
/strain="ATCC48843"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="anamorph: Fusarium moniliforme"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="taxon:5127"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ocation/Qualifiers
                                                                                                                                                                                                                                                                                                       97.0%;
99.3%;
                                                                                                                                                                                                                                                                                                                                                                        141 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                  . 304
                                                                                                                                                                                                                                                                                             Score 300.8; DB 8; Pred. No. 3.5e-82; 0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             fujikuroi"
                                                                                                                                                                                                                                                                                                                                                                                                          spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                           spacer 1"
                                                                                                                                                                                                                                                                                                                     Length 502;
                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                            ٦,
                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                           Gaps
                                              498
                                                                                             438
                                                                                                                    240
                                                                                                                                            378
```

Search completed: August 21, Job time: 14203 sec 2002, 22:09:49

```
Minimum DB seq
Maximum DB seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
   N_Geneseq_032802:*
1: /SIDS1/gcgdata/gg
2: /SIDS1/gcgdata/gg
3: /SIDS1/gcgdata/gg
4: /SIDS1/gcgdata/gg
6: /SIDS1/gcgdata/gg
6: /SIDS1/gcgdata/gg
6: /SIDS1/gcgdata/gg
9: /SIDS1/gcgdata/gg
9: /SIDS1/gcgdata/
11: /SIDS1/gcgdata/
11: /SIDS1/gcgdata/
11: /SIDS1/gcgdata/
11: /SIDS1/gcgdata/
11: /SIDS1/gcgdata/
13: /SIDS1/gcgdata/
14: /SIDS1/gcgdata/
15: /SIDS1/gcgdata/
16: /SIDS1/gcgdata/
16: /SIDS1/gcgdata/
16: /SIDS1/gcgdata/
19: /SIDS1/gcgdata/
20: /SIDS1/gcgdata/
20: /SIDS1/gcgdata/
21: /SIDS1/gcgdata/
22: /SIDS1/gcgdata/
23: /SIDS1/gcgdata/
23: /SIDS1/gcgdata/
23: /SIDS1/gcgdata/
23: /SIDS1/gcgdata/
23: /SIDS1/gcgdata/
24: /SIDS1/gcgdata/
25: /SIDS1/gcgdata/
26: /SIDS1/gcgdata/
27: /SIDS1/gcgdata/
28: /SIDS1/gcgdata/
29: /SIDS1/gcgdata/
21: /SIDS1/gcgdata/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length: 0
SIDSI/gcgdata/geneseq/geneseqn-embl/NA198.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA198.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA1991.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA1991.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA1993.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA1993.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA1994.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA1995.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA1996.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA1999.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA1999.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA1999.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA2000.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA2001A.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA2001A.DAT:*

(SIDSI)/gcgdata/geneseq/geneseqn-embl/NA2001A.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IDENTITY_NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1736436 seqs, 858457221 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-046-955-7
310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              August 21, 2002, 22:22:40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aaatgcgataagtaatgtga.....ggaatacccgctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     \(\sins1/\gcgdata/\geneseq/\geneseqn-\emb1/\na1980.DAT:\)
\(\sins1/\gcgdata/\geneseq/\geneseqn-\emb1/\na1980.DAT:\)
\(\sins1/\gcgdata/\geneseq/\geneseqn-\emb1/\na1982.DAT:\)
\(\sins1\sins1/\gcgdata/\geneseq/\geneseqn-\emb1/\na1983.DAT:\)
\(\sins1/\gcgdata/\geneseq/\geneseqn-\emb1/\na1983.DAT:\)
\(\sins1/\gcgdata/\geneseq/\geneseqn-\emb1/\na1985.DAT:\)
\(\sins1\sins1/\gcgdata/\geneseq/\geneseqn-\emb1/\na1985.DAT:\)
\(\sins1\sins1/\gcgdata/\geneseq/\geneseqn-\emb1/\na1985.DAT:\)
\(\sins1/\gcgdata/\geneseq/\geneseqn-\emb1/\na1985.DAT:\)
\(\sins1/\gcgdata/\geneseq/\geneseqn-\emb1/\na1987.DAT:\)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Search time 594.49 Seconds (without alignments) 895.294 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3472872
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMART

9	80	7	6	5	4	ω	N		Result No.
186.6	187.6	187.6	193.4	240.2	249.B	265.8	306.8	310	Score
60.2	60.5	60.5	62.4	77.5	80.6	85.7	99.0		Query Match
504	546	546	582	319	561	502	2293	310	Query Match Length DB
16	19	19	18	20	19	21	23	20	BG
AAT05400	AAV62596	AAV59007	AAT65100	AAV70850	AAV59009	AAA61893	AAS16211	AAV70851	ID
Fusarium culmorum	Fusarium poae PCR	F. poae internal t	T. harzianum IMI 3	Internal transcrib	F. avenaceum inter	Fusarium sp. MF638	Fungus genomic DNA	Internal transcrib	Description

45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10
123.6	•	•	•	124.4	124.4	125	125.2	125.2	126	126.6	131.4	134.8	136	136	136	137.6	139	141.8	147.8	147.8	149.4	157.8	163.8	166.2	168.2	174.2	175	180.4	•		183.2		8	186.6	
	39.9	9.	0		0	٥.	•	40.4		40.8						•	•	45.7				0	N	ω	٠.	σ.	6.	8	8	8	9	9	9	60.2	0.
626	626	626	580	556	556	309	627	627	640	556	364	553	617	587	365	537	605	382	549	549	615	537	809	545	569	504	569	503	503	503	545	545	610	504	504
22	19	16	19	19	19	20	19	16	22	20	20	21	20	19	20	24	20	21	21	21	22	21	20	16	18	22	18	19	19	16	19	19	20	19	19
AAF75168	AAV62503	AAT05396	AAV43268	AAV62594	AAV59008	AAV70872	AAV62572	AAQ94398	AAH73767	AAZ22438	AAV70846	AAZ91726	AAX90109	AAV43269	AAV70847	ABA01153	AAX90108	AAA72783	AAZ91724	AAZ91723	AAF76260	AAZ91725	AAX90110	AAT05403	AAT65099	AAS08426	AAT65101	AAV62592	AAV59029	AAT05401	AAV62593	AAV59030	AAX90111	AAV62591	AAV59028
ņ	P. herpotrichoides	P.herpotrichoides	Sequence of ITS re	um niva	M. nivale internal	Internal transcrib	P. herpotrichoides	P.herpotrichoides	-	Internal Transcrib	Sequence containin	nia n	inte		ta	Deuteromycetes pol	ella	rRNA 9	necatr	Ω.	Cordyceps sinensis	Rosellinia necatri	Phomopsis viticola	Microdochium nival	T. harzianum IMI 3	Internal transcrib	T. harzianum IMI 3	Fusarium graminear	F. graminearum int	Fusarium graminear	Fusarium monilifor	F. moniliforme int	Phomopsis viticola	_	F. culmorum intern

ALIGNMENTS

```
RESULT
AAV70851
                                                                                                                                                                                                              Internal transcribed spacer 2; ITS2; probe; Aspergillus flavus; A. niger; A. terreus; A. nidulans; Fusarium solani; F. moniliforme; Mucor rouxil; M. racemosus; M. plumbeus; M. indicus; A. funigatus; M. circinilloides f. circinelloides; Rhizopus oryzae; R. microsporus; R. circinans; R. stolonifer; Rhizomucor pusillus; Absidia corymbifera; Cunninghamella elegans; Pseudallesherla boydii; Scedosporium aplospermum; Penicillium notatum; Sporothrix schenkli; filamentous fungus; ss.
          Aidorevich L,
                                                                                                                                                                                    Fusarium moniliforme.
                                                                                                                                                                                                                                                                                                                                                                                          AAV70851;
                                                                                                                                                                                                                                                                                                                                                                                                                    AAV70851 standard; DNA; 310 BP
                                      (USSH ) US DEPT HEALTH & HUMAN SERVICES
                                                                  02-MAY-1997;
                                                                                               01-MAY-1998;
                                                                                                                            12-NOV-1998
                                                                                                                                                        W09850584-A2
                                                                                                                                                                                                                                                                                                                                                          26-FEB-1999 (first entry)
                                                                                                                                                                                                                                                                                                                             Internal transcribed spacer 2 (ITS2) and adjacent regions.
         Choi JS,
                                                                 97US-0045400
                                                                                               98WO-US08926
       Morrison CJ, Reiss
```

```
RESULT
AAS16211
 á
                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                Gibberellin; 18S rRNA; internal transcribed spacer region; ITS1; ITS2; 5.8S rRNA; LTB-1027; species differentiation; GA_4; GA_3; GA_7; flowering; fruit cell elongation; apple; pear; grape; fruit;
Key
                             Gibberella fujikuroi
                                                                                                                             Fungus genomic DNA spanning 18S,
                                                                                                                                                                                                                      AAS16211 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present sequence represents an internal transcribed spacer 2 (ITS2) and adjacent regions. Probes can be derived from the present sequence which are species-specific. The specification also describes ITS2 sequence-derived probes for identifying a species selected from Aspergillus flavus, A. fundyatus, A. niger, A. terreus, A. nidulans, Fusarium solani, F. moniliforme, Mucor rouxii, M. racemosus, M. plumbeus, M. indicus, M. circinilloides f. circinelloides, Rhizopus oryzae, Absidia corymbifera, Cunninghamelia elegans, Pseudallesheria boydii (teleomorph of Scedosporium apiospermum), Penicillium notatum, or Sporothrix schenkii. The probes can be used for differentiating incorrant fungial species from each other and from other medically
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New nucleic acid probes for filamentous fungi - for detecting e.g. Aspergillus, Fusarium, Mucor, Rhizopus, Rhizomucor, Absidia, Cunninghamella, Pseudoallescheria boydii, Penicillium and Sporothrix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; Page 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 310 BP; 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    important fungi.
                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                  N
                                                                                                                                                                                                                                                                                                            ctgaacttaa 310
                                                                                                                                                                                                                                                                                             ctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                 ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                            gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cccgggtttggtgttggggatcggcaagcccttgcggcaagccggacccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    abatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                    ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                            gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcggcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1999-034737/03
                                                       control;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; ilarity 100.0%; Conservative (
                                                                                                                                                            (first entry)
                                                       fungus;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        45pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ٩.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         86
                                                       ds
                                                                                                                                                                                                                      2293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                    ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 310; DB 20;
Pred. No. 2.5e-98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       80 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                            5.8S and 28S rRNA and ITS sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      T; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                     Ş
                                                  БР
                                                                            δõ
                                                                                                           В
                                                                                                                                     Ş
                                                                                                                                                                   밁
                                                                                                                                                                                                 Q
```

Query Match Best Local Similarity

99.0%;

Score 306.8; Pred. No. 7.7

.7e-97 DB 23;

Matches

Conservative

0

Mismatches

Indels Length

0, Gaps

0

2031

61

181

cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg

2151

ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120

9c9gtctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactggtacgcggcgc 240 gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcggcgc

```
This sequence represents a genomic DNA sequence containing the 18S rRNA gene, internal transcribed spacer regions 1 and 2 (ITS1, ITS2) and 5.8S rRNA sequences from a mutant strain of Gibberella fukikorol (LTB1, 1027) of the invention. This region of DNA is highly variable and can be used for species and strain differentiation. The LTB-1027 mutant produces a mixture of gibberellins which is at least 70 % GA_4 and GA_7.

Gibberellins GA_4 and GA_7 promote flowering and fruit cell elongation, and are used by growers of apples, pears and grapes to produce larger fruits and earlier harvests. The mixture of GA_3, GA_4 and GA_7 achieved using the method of this invention should be particularly useful in the apple industry where GA_4 has been found more effective in russet control and in promoting fruit set. This method produces GA_4 and GA_7 in much higher titers than prior art methods.
                                                                                                                                                                                                                                                            A new method for producing a mixture of gibberellins from Gibberella fujikuroi results in high titers of GA4 and GA7 useful to promote flowering and fruit growth in the fruit growing industry
   Sequence
                                                                                                                                                                                                                                        Example 4;
                                                                                                                                                                                                                                                                                                                               WPI; 2001-662197/76
                                                                                                                                                                                                                                                                                                                                                                                                                                  31-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                             23-AUG-2000; 2000US-0645073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US6287800-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                       (GALL/) GALLAZZO J L.
(LEEM/) LEE M D.
                                                                                                                                                                                                                                                                                                                                                         JL,
   2293
                                                                                                                                                                                                                                       Column 9-12;
   B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                 99US-151770P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /*tag= b
/note= "ITS1
1922..2078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= c
/note= "5.8S rRNA gene"
2079..2243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2244..2293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note- "18S
1775..1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "28S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note- "ITS2 region"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /*tag=
 596 A; 527 C;
                                                                                                                                                                                                                                     7pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   region"
592 G; 578 T; 0 other;
```

```
RESULT

ARA61893

ID ARA6

AC 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                     The invention relates to novel steroid compounds derived from the African soil fungus Fusarium sp. MF6381 (ATCC 74469) which act as inhibitors of HIV integrase. The invention encompasses cultures of Fusarium sp. MF6381. The invention also relates to a composition comprising a compound of the invention in combination with an AIDS antiviral agent, an immunomodulator and an antiinfective agent. The compounds of the invention may be used in the inhibition of HIV integrase and in the prevention and treatment of HIV infection. A wide integrase and in the prevention and treatment of HIV infection. A wide inmunodeficiency syndrome); ARC (AIDS-related complex); both symptomatic and asymptomatic HIV infection; and actual or potential exposure to HIV. The compounds may be used to isolate HIV integrase mutants which are potentially useful as screening tools for antiviral compounds. The compounds may also be used to establish or determine the site at which other antivirals bind to HIV integrase (e.g., by competitive inhibition). The present sequence represents the ribosomal DNA (rDNA) internal transcribed spacer (ITS) region of Fusarium sp. MF6381, which may be used
  Query Match
Best Local Similarity
Matches 288; Conserv
                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Singh SB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      symptomatic combination
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 14; 113pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New steroid compounds are HIV integrase inhibitors used for treating {\sf HIV} infection and {\sf AIDS} -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200036132-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fusarium sp. MF6381.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              acquired
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fusarium sp. MF6381 rDNA internal transcribed spacer (ITS) region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14 - NOV - 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAA61893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                      characterise MF6381.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                osomal DNA; rDNA ITS region; internal transcribed spacer; ATCC 7446 integrase inhibitor; steroid compound; human immunodeficency virus uired immunodeficiency syndrome; AIDS; ARC; AIDS-related complex; ptomatic infection; asymptomatic infection; potential HIV exposure; bination therapy; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ctgaacttaa
                                                                                                                                                 502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     standard; DNA; 502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Zink DL,
        Conservative
                                                                                                                                                 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98US-0112168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99WO-US29356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  310
                                                                                                                                                 127
                          85.7%;
93.8%;
                                                                                                                                              A; 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hazuda DJ,
                                                                                                                                              G
        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ВP
  Score 265.8; D8 : 
Pred. No. 8.9e-83 
0; Mismatches 1:
                                                                                                                                                 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Felock PJ,
                                                                                                                                              <u>ც</u>
                                                                                                                                                 113
                                                                                                                                              Τ,
                                                           DB 21;
        17;
                                                                                                                                        0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Polishook
        Indels
                                                        Length
  2;
  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   virus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2271
1;
```

```
RESULT
AAV59009
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                Wheat pathogen internal transcribed spacer sequences - used basis for primers for the species-specific polymerase chain detection of the pathogens
                                              Claim 1;
                                                                                                        WPI; 1998-593995/50
                                                                                                                            Beck JJ;
                                                                                                                                                                                     01-AUG-1997;
                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                           Fusarium avenaceum
                                                                                                                                                                                                                                                                                                                                                                         F. avenaceum internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                               06-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                   AAV59009;
                                                                                                                                                                                                                                                                                                                                                                                                                                      AAV59009
                                                                                                                                             (NOVS ) NOVARTIS FINANCE CORP
                                                                                                                                                                                                        27-OCT-1998
                                                                                                                                                                                                                                                                                                                                            Internal transcribed spacer; ITS
fungal pathogen identification;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .
                                                                                                                                                                                                                                                                                                                                                                                                                                                        4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cgctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cgctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gcggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gcggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tggcggtctcgctgcagcttccattgcgtagtagtagtagaaccctcgcaactggtacgcggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cccgggtttggtgttggggatcggcaagccct--tgcggcaagccggccccgaaatctag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatcttttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tggcggtctcgctgcagcctccattgcgtagtagctaacacctcgcaactggaacgcggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cccgggtttggtgttggggatcgggctgcggttctaccgcgtcccgggccccgaaatctag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                            Column 29-30; 20pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                     standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      502
                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                _uy= a
/note= "ITS1"
339..504
/*tag= b
                                                                                                                                                                 97US-0905314.
                                                                                                                                                                                    97US-0905314
                                                                                                                                                                                                                                                                                              31..181
                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                     561
                                                                                                                                                                                                                                                                                                                                                                                                                                     ВP
                                            English
                                                                                                                                                                                                                                                                                                                                           ITS; Microdochium; Fusarium;
on; infection identification;
                                                                                                                                                                                                                                                                                                                                                                         spacer.
                                                                                                                                                                                                                                                                                                                                            wheat pathogen; ss.
                                                                           reaction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
```

This sequence represents an internal transcribed spacer (ITS) sequence the invention. The primer pairs, based on the ITS sequences, are used f the PCR amplification detection of wheat Microdochium and Fusarium fung pathogens, especially M. nivale, F. graminearum, F. culmorum,

F. graminearum,

fungal for

```
RESULT

AAV70850

ID AAV7

XX AAV7

AC AAV7

AC AAV7

XX Inte

XX Inte

XX Inte

XX M A. n

XX Peni

XX Peni

XX W Peni

XX W OCunn

XX W Peni

XX V Peni

XX V 12-N

XX O1-M

XX (USS

XX WPI;

XX WPI;

XX N Aido
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSSSXQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Ma
Best Loc
Matches
  New nucleic acid probes for filamentous Aspergillus, Fusarium, Mucor, Rhizopus,
                                                                                                                                                                                                                                                          A. niger; A. terreus; A. nidulans; Fusarium solani; F. moniliforme; Mucor rouxii; M. racemosus; M. plumbeus; M. indicus; A. fumigatus; M. circinilloides f. circinelloides; Rhizopus oryzae; R. microsporus; R. circinans; R. stolonifer; Rhizomucor pusillus; Absidia corymbifera
                                                                                              (USSH ) US
                                                                                                                                                    01-MAY-1998;
                                                                                                                                                                               12-NOV-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAV70850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F. avenaceum, F. poae, F. moniliforme or F. roseum. The two different strains of fungi show different symptoms during infection, which may omegay not be due to infection. Early identification of the strain causing the infection allows early, and more specific fungicidal treatment.
                                                                                                                                                                                                                                                                                                                                          Internal transcribed spacer 2; ITS2; probe; Aspergillus flavus;
                                                                                                                                                                                                                                                                                                                                                                     Internal transcribed spacer 2 (ITS2) and adjacent regions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaataccccfgggccatgccg-taaaacccccaacttctgaatgttgacctcggatcaggtaggaataccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatcttttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cccgggtttggtgttggggatcggcaagcccttgcggc-aagccggccccgaaatctagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99C99tctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactggtacgcggcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ggcggtctcgctgcagcctccattgcgtagtagctaacacctcgcaactggaacgcggcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cccgggtttggtgttggggatcggctctgccttmyggcggtgccgcccccgaaatacatt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ttgcgcccgctggtattccggcggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                   solani.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        561 BP;
                                                                                              DEPT HEALTH & HUMAN SERVICES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                    Choi
                                                                                                                        97US-0045400
                                                                                                                                                   98WO-US08926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      145 A; 152 C; 135 G; 126 T; 3 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 80.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        319
                                                                    Morrison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 249.8;
Pred. No. 3.7e
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ВΡ
                                                                                                                                                                                                                                                        schenkii; filamentous fungus; ss
                                                                   СJ,
                                                                   Reiss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.7e-77
fungi - for detecting
Rhizomucor, Absidia,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB
                                                                   Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19; Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2
                                                                                                                                                                                                                                                                     apiospermum;
            æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            causing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            53C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2;
```

```
RESULT
AAT65100
ρ
                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 277; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                     ITS1-ITS4 region; 5.8S rRNA; filamentous fungi; Trichoderma harzianum; liquid formulation; T. viride; gene recipient; increase activity; biological control agent; plant disease; biodeterioration; biolixiviation; leaching; ss.
                                                                           Trichoderma
                                                                                                                                                                                                                                                       AAT65100 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence represents an internal transcribed spacer 2 (ITS2) and adjacent regions. Probes can be derived from the present sequence which are species specific. The specification also describes ITS2 sequence-derived probes for identifying a species selected from Aspergillus flavus, A. funiquatus, A. niger, A. terreus, A. nidulans, Fusarium solani, F. moniliforme, Mucor rouxii, M. racemosus, M. plumbeus, M. indicus, M. circinilloides f. circinelloides, Rhizopus oryzae, R. microsporus, R. circinans, R. stolonifer, Rhizomucor pusillus, Absidia corymbifera, Cunninghamella elegans, Pseudallesherla boydii (telecmorph of Scedosporium apiospermum), Penicillium notatum, or filamentous fungal species from each other and from other medically important fungi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence represents an and adjacent regions. Probes can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          species.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cunninghamella,
                                                                                                                                                                                                                                                                                                                            303
                                                                                                                                                                                                                                                                                                                                                                                 243
                                                                                                                                                                                                                                                                                                                                                                                                            234
                                                                                                                                                                                                                                                                                                                                                                                                                                       183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      important fungi.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                        harzianum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      w
                                                                                                                                                                                                                                                                                    6
                                                                                                                                                                                                                                                                                                                                      atacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                         atacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                          9C99C9C9gCcaagCCgttaaacCCCCaaCttctgaatgttgacCtcggatcaggtagga
                                                                                                                                                                                                                                                                                                                                                                                                                                             tctagtggcggtctcgctgcagcttccattgcgtagtagtagaaaccctcgcaactggtac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ccc9999cct99cgtt9gggatcggcggaagccccctgcgggcacaacgccgtcccccaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cccgggtttggtgttggggatcggcaagcccttgcggc-----aagccggccccgaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                           gcggcgcgccacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtagga
                                                                                                                                                                                                                                                                                                                                                                                                                                tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; Page 12;
                                                                           harzianum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pseudoallescheria
                                                                                                                                                                352940 5.8 S rRNA gene regions ITS1-ITS4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            45pp;
                                                                                                                                                                                                                                                       DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77.5%;
87.4%;
                                                                           strain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          96
                                                                                                                                                                                                                                                       582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 240.2;
Pred. No. 6.6e
0; Mismatches
                                                                          IMI 352940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ი
ე
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     boydii,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .6e-74;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Penicillium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3
3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sporothrix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             122
                                                                                                                                                                                                                                                                                                                                                                                                        293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
```

1:

06-NOV-1996;

96WO-ES00206

```
밁
                                Ş
                                                                       문
                                                                                                      ş
                                                                                                                                           В
                                                                                                                                                                      ð
                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                             Ŷ
                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present sequence represents the ITS1-ITS4 region of the 5.85 rRNA CC gene from the filamentous fungi Trichoderma harzianum strain IMI 352940. A novel liquid formulation based on strains of T. harzianum and CC T. viride, has the following composition (w/v%): 0.1-6 sorbitol; CC 0.02-2 K3P03; 0.05-2 KN03; 0.002-1 M9504.7H20; 0.02-2 (NH4)H2P04; CC 0.02-2 copper; 0.02-2 zinc; 0.02-2 molybdenum; 0.02-1 boron; 0.02-1 iron; CC 0.02-2 manganese; and a biological component comprising at least one of: CT harzianum IMI 352939 (3 x 105 to 10 x 107 conidia/ml), T. harzianum IMI 352941 (CC T. harzianum IMI 352939) (3 x 105 to 10 x 107 conidia/ml), T. harzianum IMI 352941 (CC T. viride CECT 20178. The Trichoderma fungi, alone or in combination, CC are used as gene recipients to increase activity of the formulation as a CC biological control agent against diseases of plants and plant material CC and biological entities causing biodeterioration, and as a CC distriction (leaching) agent. It is particularly used e.g. in CC agriculture, forestry and gardening; for controlling microorganisms which CC agriculture dproducts. The antagonistic capacity of the four types of T. harzianum and one type of T. viride over other soil fungi makes them CC useful for control of plant diseases. Use of this formulation allows ceco-friendly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Liquid formulation of Trichoderma harzianum and Trichoderma viride strains - are used as biological control agents against diseases oplants and plant material and as biolixiviation agents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure;
   564
                                                                                                                                           444
                                                                                                                                                                                                                                                                                324
                                                                                                                                                                                                                                                                                                                                                      264
                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                    gaatacccgctgaacttaa
                                                                                                                                                                                                                                                                           ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
gaatacccgctgaacttaa
                                                                                  9cggcgcggcca-agccgttaaacccccaacttctg-aatgttgacctcggatcaggtag
                                                                                                                                   acagtggcggtctcgccgcagcctctcctgcgcagtagtttgcacactcgcatcgggagc
                                                                                                                                                       ctagtggcggtctcgctgcagcttccattgcgtagtag-taaaaaccctcgcaactggtac
                                                                                                                                                                                                       cctccgccccctcggcgttggggatcggccctcccttagcgggtggccgtctccgaaat
                                                                                                                                                                                                                           c----ccgggtttggtgttggggatcggcaagccctt-gcggcaagccggcccggaaat 174
                                                                                                                                                                                                                                                                                                                                                aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                    aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                   gcggcgcgtccacagccgttaaacaccccaacttctgaaatgttgacctcggatcaggtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CONSEJO SUPERIOR INVESTIGACIONES CIENTIF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            582 BP; 129
                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Page 26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SALAMANCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          95ES-0002266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Grondona
                                                                                                                                                                                                                                                                                                                                                                                                                                    62.4%;
85.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Espana I,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ç
                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                    Score 193.4; DB 18;
Pred. No. 2e-57;
0; Mismatches 36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G; 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Monte Vazquez
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ΥT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          other;
                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                  9;
                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of
                                                                                                                                     503
                                                                                                                                                                        233
                                                                                                                                                                                                           443
                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                323
                                                                                                                                                                                                                                                                                                                                                                                                                  ر.
```

δ В Q В Q 밁 Qy

181 351

c---agcttggtgttggg

9c99tctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcggc

9cggtcacg-tcgagcttccatagcgtagtaatttacacatcgttactggtaatcgtcgc

457

291

ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc

aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca

cccgggtttggtgttggggatcggcaagcccttgcggcaagccggacccgaaatctagtg

180

398

120

290 60

4.

350

-atctgtgtgcaaacacagtccccaaattgattg

```
Query Match
Best Local Similarity 84.5
Matches 262; Conservative
                                                                                 This sequence represents an internal transcribed spacer (ITS) sequence of the invention. The primer pairs, based on the ITS sequences, are used it the PCR amplification detection of wheat Microdochium and Fusarium fungapathogens, especially M. nivale, F. graminearum, F. culmorum, F. avenaceum, F. poae, F. moniliforme or F. roseum. The two different strains of fungi show different symptoms during infection, which may or may not be due to infection. Early identification of the strain causing the infection allows early, and more specific fungicidal treatment.
                                                             Sequence 546 BP; 150 A; 140 C; 125 G; 131 T; 0 other;
                                                                                                                                                                                                    Claim 1; Column 25-26; 20pp;
                                                                                                                                                                                                                         Wheat pathogen internal transcribed spacer basis for primers for the species-specific detection of the pathogens
                                                                                                                                                                                                                                                                                                                                                     01-AUG-1997;
                                                                                                                                                                                                                                                                            WPI; 1998-593995/50.
                                                                                                                                                                                                                                                                                                                                                                           01-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                             US5827695-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fusarium poae
                                                                                                                                                                                                                                                                                                                           (NOVS ) NOVARTIS FINANCE CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            fungal pathogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAV59007 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                poae internal transcribed
                                                                                                                                                                                                                                                                                                                                                     97US-0905314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /*tag... a
/note= "ITS1"
338..489
                                                                                                                                                                                                                                                                                                                                                                           97US-0905314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ilbed spacer; ITS; Microdochium; Fusarium;
identification; infection identification;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= b
/note= "ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31..160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
              60.5%;
  Score 187.6; DB 1
Pred. No. 2.1e-55;
D; Mismatches 34
                                                                                                                                                                                                  English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                spacer
                        DB 19;
                                                                                                                                                                                                                                                  sequences -
                                                                                                                                                                                                                                      polymerase chain
  34;
  Indels
                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     wheat
14;
                                                                                                                                                                                                                                    reaction
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      pathogen;
                                                                                                                                               ence of
sed for
fungal
```

```
RESULT
AAV62596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
This represents the consensus DNA sequence of the internal transcribed spacer (ITS) region that was POR amplified from Fusarium poae isolates, T-427, T-534 and T-756. The invention provides a DNA molecule isolated from the ribosomal RNA (rRNA) gene region of a fungal pathogen, where the DNA molecule consists of an ITS sequence selected from ITS1 and ITS2 of Fusarium culmorum, Fusarium graminearum, Fusarium moniliforme, Septoria avenae or Microdochicum nivale. A method for detecting F. graminearum, F. culmorum, F. moniliforme, F. poae, F. avenaceum and M. nivale isolates is also provided. The method
                                                                                                                                                                                                                                               02-JUL-1997;
19-APR-1995;
15-OCT-1996;
                                                                                                                                         DNA isolated from fungal RNA, sequence - used for detecting
                                                                                                                    Examples; Columns 87–88; 56pp; English.
                                                                                                                                                                            WPI; 1998-541745/46
                                                                                                                                                                                                    Beck
                                                                                                                                                                                                                        (NOVS ) NOVARTIS FINANCE CORP
                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Internal transcribed spacer; ITS; ribosomal RNA; rRNA; fungal pathogen; Fusarium culmorum; Fusarium graminearum; Fusarium moniliforme; plant; Septoria avenae; Microdochicum nivale; Fusarium poae; Fusarium avenaceur
                                                                                                                                                                                                                                                                                             02-JUL-1997;
                                                                                                                                                                                                                                                                                                                                         US5814453-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                   29-SEP-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fusarium poae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAV62596;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAV62596 standard; DNA; 546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ggccacgccgttaaa-ccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       poae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                             97US-0887480.
95WO-US04712.
96US-0722187.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PCR amplified ITS region
                                                                                                                                                                                                                                                                                            97US-0887480
                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "ITS .
181..337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "3'
31..180
                                                                                                                                                                                                                                                                                                                                                                                                                 /*tag= c
/note= "5.8S rRNA
338..489
                                                                                                                                                                                                                                                                                                                                                                                    /note- "ITS
490..546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        310
                                                                                                                                                                                                                                                                                                                                                              /note=
                                                                                                                                                                                                                                                                                                                                                                        /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                           /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 detection;
                                                                                                                                                                                                                                                                                                                                                           "5' end of large subunit rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                            ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   end
                                                                                                                                                                                                                                                                                                                                                                                                2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SS
                                                                                                                                         and its internal fungal pathogens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of.
                                                                                                                                                                                                                                                                                                                                                                                                                              gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                small subunit rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       consensus
                                                                                                                                        transcribed spacer in plant tissue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fusarium avenaceum;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
```

```
RESULT
AAT05400
                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SSSSSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 262;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                            Plant pathogen; fungus; Septoria nodorum; Septoria tritici; Fusariu Pseudocercosporella herpotrichoides; Mycosphaerella fijiensis; PCR; Mycosphaerella musicola; amplification; primer; ribosomal RNA gene; internal transcribed region; strain; capture; colourimetric assay;
                 DNA encoding
                                       WPI; 1995-383005/49
                                                                                                                                                                                                                       internal isolate;
                                                                                                          25-APR-1994;
                                                                                                                                                      02-NOV-1995
                                                                                                                                                                            WO9529260-A2
                                                                                                                                                                                                  Fusarium culmorum
                                                                                                                                                                                                                                                                                           Fusarium
                                                                                                                                                                                                                                                                                                               04-JUN-1996
                                                                                                                                                                                                                                                                                                                                                          AAT05400 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      comprises isolating DNA from a plant leaf infected with at least the above pathogens and amplifying parts of the ITS sequence of t pathogen(s) by PCR using specific primers from within these seque The pathogen(s) are detected by visualising the amplified part of ITS sequence.
                                                                                                                                19-APR-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 546 BP; 150
                                                                                                                                                                                                                                                                                                                                                                                                                   517
                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                              458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     l aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcggaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                  9
                                                               JJ,
                                                                                                                                                                                                                                                                                                                                                                                                                              ctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99ccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gcggtcacg-tcgagcttccatagcgtagtaatttacacatcgttactggtaatcgtcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                 ctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ggccacgccgttaaa-ccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               c---agcttggtgttggg-----atctgtgtgcaaacacagtccccaaattgattg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 290
                                                                                   CIBA GEIGY
                                                                                                                                                                                                                     development;
                                                                                                                                                                                                                                                                                          culmorum
                                                             Ligon
               intervening transcribed sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                          94US-0233608
                                                                                                                               95WO-US04712.
                                                             'n,
                                                                                                                                                                                                                                                                                      internal transcribed spacer sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Α;
                                                                                                                                                                                                                                                                                                                                                           504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               140 C;
                                                                                                                                                                                                                                                                                                                                                           ₽P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 187.6; DB 1
Pred. No. 2.1e-55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              131 T; 0 other;
                                                                                                                                                                                                                     ture; colourimetric 
amplified polymorp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19;
                used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                     polymorphic DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
               for detection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              546;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14;
                                                                                                                                                                                                                                                                Fusarium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                one
                                                                                                                                                                                                                                                                                                                                                                                                                                                           516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                     88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4
```

plant

pathogens

ş

```
RESULT 10
AAV59028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A novel method for the detection of plant pathogenic strains of fungi e.g. Septoria nodorum, S.tritici, Pseudocercosporella herpotrichoides, Mycosphaerella fijiensis, M.musicola or Fusarium spp, involves the PCR amplification of sequences found in the internal transcribed region (ITS) of the 185, 5.85 and 28 ribosomal RNA genes by the primers AAQ94359-93 and AAT05357-72. These primers are derived from the ITS sequences of these fungi (AAT05394-T05404 and AAQ94398) and are strain specific. The amplification products of the reactions using these primers can be used with the capture primers AAT05378-93 in colourimetric assays. The primers and ITS DNAs can be used for the detection of specific fungal pathogen isolates and in monitoring disease development in plant populations.
                                                                                                 misc_feature
                                US5827695-A
                                                                                                                                                 misc_feature
                                                                                                                                                                                                     Fusarium
                                                                                                                                                                                                                                   Internal transcribed spacer; ITS; Microdochium; Fusarium;
fungal pathogen identification; infection identification;
                                                                                                                                                                                                                                                                                         F. culmorum
                                                                                                                                                                                                                                                                                                                         06-JAN-1999
                                                                                                                                                                                                                                                                                                                                                         AAV59028;
                                                                                                                                                                                                                                                                                                                                                                                          AAV59028 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 504 BP; 133 A; 132 C; 113 G; 122 T; 4 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 Baatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatcttttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ctgaa 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gcggtctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactggtacgcggcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gcggtcacgtcgragcttccatagcgtagtaatttacatatcgttactggtaatcgtcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  c---agcttggtgttggg-----agctgcagtcctgctgcactccccaaatacattg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ammatgcgatmagtmatgtgmattgcmamattcmagtgmatcatcgmatctttgmacgcmcm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                     culmorum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Page
                                                                                                                                                                                                                                                                                     internal transcribed spacer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                       (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  54-55;
                                                                                                /*tag= a
/note= "ITS1"
319..472
                                                                                                                                                 Location/Qualifiers 13..161
                                                                /*tag= b
/note= "ITS2"
                                                                                                                                                                                                                                                                                                                                                                                          DNA;
                                                                                                                                                                                                                                                                                                                       entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                65pp; English.
                                                                                                                                                                                                                                                                                                                                                                                            ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 186.6; DB 1
Pred. No. 4.6e-55;
1; Mismatches 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 16; Length 504;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                   wheat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12;
                                                                                                                                                                                                                                                   pathogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ω
••
```

밁 Š 밁 Q В δÃ В ş

ş

몽

```
RESULT 11
AAV62591
ID AAV625
밁
                                                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 60.2%;
Best Local Similarity 82.6%;
Matches 252; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This sequence represents an internal transcribed spacer (ITS) sequence of the invention. The primer pairs, based on the ITS sequences, are used for the PCR amplification detection of wheat Microdochium and Fusarium fungal pathogens, especially M. nivale, F. graminearum, F. culmorum, F. avenaceum, F. poae, F. moniliforme or F. roseum. The two different strains of fungi show different symptoms during infection, which may or may not be due to infection. Early identification of the strain causing the infection allows early, and more specific fungicidal treatment.
                      Internal transcribed spacer; ITS; ribosomal RNA; rRNA; fungal pathogen; Fusarium culmorum; Fusarium graminearum; Fusarium moniliforme; plant; Septoria avenae; Microdochicum nivale; Fusarium poae; Fusarium avenaceu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wheat pathogen internal transcribed spacer basis for primers for the species-specific detection of the pathogens
                                                                                       Fusarium
                                                                                                                     17-DEC-1998
                                                                                                                                                                                 AAV62591 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 504 BP; 133 A; 132 C; 113 G; 122 T; 4 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Column 21-22; 20pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1998-593995/50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (NOVS ) NOVARTIS FINANCE CORP
                                                                                                                                                                                                                                                               500
                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                         441
                                                                                                                                                                                                                                                                                                                                                                                         381
                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                       332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          212 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                            ctgaa
                                                                                                                                                                                                                                                                                            ctgaa
                                                                                                                                                                                                                                                                                                                                        ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                      gcggtctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactggtacgcggcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ggcyacgccgttaaa-ccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                      gcggtcacgtcgragcttccatagcgtagtaatttacatatcgttactggtaatcgtcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                   c---agcttggtgttggg-----agctgcagtcctgctgcactccccaaatacattg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                    culmorum PCR amplified ITS region
                                                                                                                                                                                                                                                               504
                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97US-0905314.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 186.6; DB 1
Pred. No. 4.6e-55;
1; Mismatches 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequences - used as a polymerase chain reaction
                                                                                      consensus DNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB_19; Length 504;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12;
                          plant;
avenaceum;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                       440
                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                   380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
```

ω --

PCR; nucleic acid detection; ss

Fusarium

culmorum

```
В
                                                                                                                                                                                                                                                                     Matches 252;
                                                                                                                                                                                                                                                                                          Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                   This represents the consensus DNA sequence of the internal transcribed spacer (ITS) region that was PCR amplified from Fusarium culmorum isolates, R-5106, R-5126 and R-5146. The invention provides a DNA molecule isolated from the ribosomal RNA (rRNA) gene region of a fungal pathogen, where the DNA molecule consists of an ITS sequence selected from ITS1 and ITS2 of Fusarium culmorum, Fusarium graminearum, Fusarium moniliforme, Septoria avenae or Microdochicum nivale. A method for detecting F. graminearum, F. culmorum, F. moniliforme, F. poae, F. avenaceum and M. nivale isolates is also provided. The method comprises isolating DNA from a plant leaf infected with at least one of the above pathogens and amplifying parts of the ITS sequence of the pathogen(s) by PCR using specific primers from within these sequences. The pathogen(s) are detected by visualising the amplified part of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-JUL-1997;
19-APR-1995;
15-OCT-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Key
                                                                                                                                                                                                                                                                                                                                                                            Sequence 504 BP; 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA isolated from fungal RNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1998-541745/46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (NOVS ) NOVARTIS FINANCE CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-JUL-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US5814453-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29-SEP-1998
                                                                                                                                                                              212
                                                                                                              61 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                  1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatcttttgaacgcaca
                      cccgggtttggtgttggggatcggcaagcccttgcggcaagccgggccccgaaatctagtg 180
  c---agcttggtgttggg-----
                                                                                                                                                                              aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                       ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2; Fig 3; 56pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              used for detecting
                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97US-0887480.
95WO-US04712.
96US-0722187.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= "ITS .
162..318
/*tar-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "3' (
13..161
/*t>^
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   97US-0887480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag= d
/note= "ITS
473..504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /*tag= c
/note= "5.8S rRNA gene"
319..472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /*tag= e
/note= "5′ end of large subunit rRNA gene'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ′*tag=
                                                                                                                                                                                                                                                                                     60.2%;
                                                                                                                                                                                                                                                                                                                                                                              A; 132 C;
                                                                                                                                                                                                                                                                ; Score 186.6;
; Pred. No. 4.6;
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  end of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and its internal transcribed spacer fungal pathogens in plant tissue
                                                                                                                                                                                                                                                                                                                                                                              113
-agctgcagtcctgctgcactccccaaatacattg
                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                small subunit rRNA
                                                                                                                                                                                                                                                                                                                                                                              G; 122
                                                                                                                                                                                                                                                                                       4.6e-55;
                                                                                                                                                                                                                                                                                                                                                                              T; 4 other;
                                                                                                                                                                                                                                                                                                              DB 19;
                                                                                                                                                                                                                                                                     40;
                                                                                                                                                                                                                                                                     Indels 12;
                                                                                                                                                                                                                                                                                                          Length 504;
                                                                                                                                                                                                                                                                   Gaps
    380
                                                                                         331
                                                                                                                                                                                271
                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                   ω
,.
```

밁 Ş

밁

283

Ş

1 aaatgogataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60

aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 342

Matches Query Match

Local Similarity

59.7%; 83.1%;

Score 185; DB 20; Pred. No. 1.8e-54;

DB 20;

Length 610; Indels

8

Gaps

4

Mismatches

Conservative

Sequence

610

BP;

150 A; 175 C;

163 G; 122 T; 0 other;

õ

Ş

밁

```
RESULT
AAX90111
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                         The present invention describes oligonucleotides (I) for identifying fungal pathogens, especially of grape plants. The oligonucleotides are isolated double stranded nucleic acids representing the internal transcribed spacer (ITS) I and 2 of ribosomal RNA genes from the organisms Eutypella vitis, Eutypa lata, Phomopsis viticola or Diplodia gossypina. The oligonucleotide are used to detect the fungal pathogens Eutypella vitis, Eutypa lata, Phomopsis viticola or Diplodia pathogens Eutypella vitis, Eutypa lata, Phomopsis viticola or Diplodia gossypina, especially when infecting grape plants. The detection method is used in the wine industry. AAX90075 to AAX90094 represent specifically claimed oligonucleotides from the present invention. AAX90095 to AAX90105 represent specifically claimed PCR primers for use in the detection of the fungal pathogens Eutypella vitis, Eutypa lata, Phomopsis viticola or Diplodia gossypina. The present sequence represents an ITS DNA sequence from the present sequence represents.
                                                                                                                                                                                                                                                                                            Disclosure; Page 32; 43pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            grape; ribosomal RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Phomopsis viticola (variant 2) internal transcribed spacer DNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAX90111;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAX90111 standard; DNA; 610
                              an ITS DNA sequence from the present invention.
                                                                                                                                                                                                                                                                                                                             fungal pathogen ribosomal DNA genes
                                                                                                                                                                                                                                                                                                                                               Novel primers targeted to
                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1999-429921/36
                                                                                                                                                                                                                                                                                                                                                                                                                                                  (GALL-) GALLO WINERY E & J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO9929899-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Phomopsis viticola.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     500 ctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ggcyacgccgttaaa-ccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gcggtcacgtcgragcttccatagcgtagtaatttacatatcgttactggtaatcgtcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gcggtctcgctgcagcttccattgcgtagtagtagaaaccctcgcaactggtacgcggcgc
                                                                                                                                                                                                                                                                                                                                                                                                                  RΑ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            internal transcribed spacer; detection; fungal pathogen;
somal RNA gene region; identification; wine; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                Engel SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97US-0986727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98WO-US25210
                                                                                                                                                                                                                                                                                                                                                                                                                  Irelan
                                                                                                                                                                                                                                                                                                                                               internal transcribed spacer region
                                                                                                                                                                                                                                                                                                                                                                                                                  NA;
                                                                                                                                                                                                                                                                                                                                                 of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
```

```
οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ô
ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 13
AAV59030
      This sequence represents an internal transcribed spacer (ITS) sequence (the invention. The primer pairs, based on the ITS sequences, are used in the PCR amplification detection of wheat Microdochium and Fusarium funguent pathogens, especially M. nivale, F. graminearum, F. culmorum, F. pathogens, F. moniliforme or F. roseum. The two different strains of fungi show different symptoms during infection, which may or the strain of the strain causing the infection. Early identification of the strain causing the infection.
                                                                                                                            Wheat pathogen internal transcribed spacer sequences - used basis for primers for the species-specific polymerase chain detection of the pathogens
                                                                                                                                                                                                                                                                                                   27-OCT-1998
                                                                                                                                                                                                                                                                                                                           US5827695-A
                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F. moniliforme internal transcribed spacer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAV59030 standard;
                                                                                                       Disclosure; Column 23-26;
                                                                                                                                                                             WPI; 1998-593995/50
                                                                                                                                                                                                                           (NOVS ) NOVARTIS FINANCE CORP
                                                                                                                                                                                                                                                    01-AUG-1997;
                                                                                                                                                                                                                                                                           01-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Internal transcribed spacer; IT:
fungal pathogen identification;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
infection allows early, and more specific fungicidal treatment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ggtgccctgccgttaaacccccaacttctgaaagtttgacctcggatcaggtaggaatac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gcggccaagccgttaaacccccaacttctgaatg-ttgacctcggatcaggtaggaatac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactg--gtacgcggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cccgggtttggtgttggggatcggcaagcccttgcggcaagccgggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gcgagctcgc--caggaccccgagcgcagtagttaaaccctcgctccgggaggccctggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -cctggcttggtgatggggactgctccccccccggggagcaggccctgaaatccagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                 moniliforme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                    97US-0905314
                                                                                                                                                                                                                                                                            97US-0905314
                                                                                                                                                                                                                                                                                                                                                           /*tag= a
/note= "ITS1"
336..488
/*tag= b
                                                                                                                                                                                                                                                                                                                                                                                                                31..178
                                                                                                                                                                                                                                                                                                                                                   /note= "ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   545
                                                                                                       20pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ITS; Microdochium; Fusarium; wheat pathogen;
on; infection identification; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        infection
                                                                                                         English.
                                                                                                                                            las a
reaction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    297
                                                          ence of
sed for
fungal
```

```
RESULT 1
AAV62593
ID AAV6
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sox
                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
Query Match
Best Local Sim
Matches 259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 545
                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                         Fusarium culmorum; Fusarium graminearum; Fusarium moniliforme; Septoria avenae; Microdochicum nivale; Fusarium poae; Fusarium
                                                                                                                                                                                                                                                                                             Fusarium moniliforme PCR amplified ITS region DNA sequence
                                                                                                                                                                                                                                                                                                                  17-DEC-1998
                                                                                                                                                                                                                                                                                                                                    AAV62593;
         02-JUL-1997;
                                                                                  misc_feature
                                                                                                             misc_feature
                                                                                                                                         misc_feature
                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                             Fusarium moniliforme
                                                                                                                                                                                                                                                                                                                                                      AAV62593 standard;
                            29-SEP-1998
                                                                                                                                                                                                                                                                            Internal transcribed spacer; ITS; ribosomal RNA; rRNA; fungal pathogen;
                                                                                                                                                                                                                                                                                                                                                                                                     516
                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                          457
                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                         14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gcggtctcgctgcagcttccattgcgtagtagtagaaccctcgcaactggtacgcggcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cccgggtttggtgttggggatcggcaagcccttgcggcaagccggacccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                     ctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                       ctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gcggtcacg-tcgagcttccatagcgtagtaatttacacatcgttactggtaatcgtcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    c---agcttggtgttggg-----agctgcagtcctgctgcactccccaaatacattg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                         ggccacgccgttaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BP; 148 A; 143
                                                                                                                                                                                                                                                 acid detection;
                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                           /note= *3'
31..178
/*tar-
                                                                                                            /*tag= c
/note= "5.8S
336..488
                                                                                                                                         /*tag= b
/note= "ITS
179..335
                                                                                                                                                                                                                                                                                                                                                                                                     525
                                                                                                                                                                                                                                                                                                                                                                                                                       310
         97US-0887480
                                                                                  /note= "ITS
489..545
                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                      /*tag=
                                                               /*tag= e
/note= "5′
                                                                          /*tag=
                                                                                                     /*tag=
                                                                                                                                                                                                                                                                                                                                                      DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             59.1%;
83.5%;
                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                       545
                                                                end
                                                                                                                                                                               end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ü
                                                                                                                                                                                                                                                                                                                                                       ΒP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 183.2; DB Pred. No. 7.3e-54 D; Mismatches 3
                                                                                                                       rRNA
                                                                                                                                                                                                                                                 SS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    125
                                                                of large subunit rRNA
                                                                                                                                                                               of.
                                                                                                                      gene"
                                                                                                                                                                               small subunit rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ဂ္
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     T;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                           Fusarium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          545;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13;
                                                                                                                                                                                                                                                          plant;
avenaceum;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                           515
                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4
```

```
RESULT
AATO5401
ID AAT
XX
AC AAT
AC AAT
XX
AC FUS
CT 04-
CT V4-
CT FUS
XX
DE FUS
XX
KW Pla
                                                                                                                                                                                       밁
                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                       οy
                                                                                                                                                                                                                                                                                                                                                                                                    ₽
                                                                                                                                                                                                                                                                                                                                                                                                                          οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 259; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-JUL-1997;
19-APR-1995;
15-OCT-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fusarium moniliforme, Septoria avenae or Microdochicum nivale. A method for detecting F. graminearum, F. culmorum, F. moniliforme, F. poae, F. avenaceum and M. nivale isolates is also provided. The method comprises isolating DNA from a plant leaf infected with at least one of the above pathogens and amplifying parts of the ITS sequence of the pathogen(s) by PCR using specific primers from within these sequences. The pathogen(s) are detected by visualising the amplified part of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This represents the DNA sequence of the internal transcribed spacer (ITS: region that was PCR amplified from Fusarium moniliforme. The invention provides a DNA molecule isolated from the ribosomal RNA gene region of a fungal pathogen, where the DNA molecule consists of an ITS sequence selected from ITS1 and ITS2 of Fusarium culmorum, Fusarium graminearum,
 Plant pathogen; fungus; Septoria nodorum; Septoria tritici; Pseudocercosporella herpotrichoides; Mycosphaerella fijiensi
                                         Fusarium
                                                                                                                     AAT05401 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA isolated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1998-541745/46
                                                                                                                                                                                       516
                                                                                                                                                                                                                                          457
                                                                                                                                                                                                                                                                                                                                                 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (NOVS)
                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                               398
                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                     289
                                                                                                                                                                                                                                                                                                                                                                                                                                                        229
                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                      ctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                | tlgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ctgaacttaa
                                                                                                                                                                                                                                                       ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                           ggccacgccgttaaa
                                                                                                                                                                                                                                                                                                                                                                cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                    ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                            gcggtcacg-tcgagcttccatagcgtagtaatttacacatcgttactggtaatcgtcgc
                                                                                                                                                                                                                                                                                                                                               c---agcttggtgttggg-----agctgcagtcctgctgcactccccaaatacattg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NOVARTIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fig
                                        graminearum internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3; 56pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97US-0887480.
95WO-US04712.
96US-0722187.
                                                                                                                                                                                                                310
                                                                                                                                                                                       525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          148 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FINANCE CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fungal RNA, and its internal or detecting fungal pathogens
                                                                                                                      DNA;
herpotrichoides; Mycosphaerella

    ccccaacttctgaatgttgacctcggatcaggtaggaatacccg

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    59.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        143 C;
                                                                                                                      89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 183.2;
Pred. No. 7.3e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        125 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .3e-54;
                                      spacer sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 19; Length 545;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            transcribed spacer in plant tissue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
fijiensis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                  348
                                                                                                                                                                                                                                         515
                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                       288
                                                                                                                                                                                                                                                                                            456
                                                                                                                                                                                                                                                                                                                                                 397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4
```

```
Ş
                                                                                          Š
                                                                밁
                                                                                                                         В
                                                                                                                                                      Š
                                                                                                                                                                                       밁
                                                                                                                                                                                                                 οy
                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S
Matches 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A novel method for the detection of plant pathogenic strains of fungices. Septoria nodorum, S.tritici, Pseudocercosporella herpotricholdes, Mycosphaerella fijiensis, M.musicola or Fusarium spp, involves the PCR amplification of sequences found in the internal transcribed region (ITS) of the 185, 5.85 and 285 ribosomal RNA genes by the primers AAQ94359-93 and AAT05357-72. These primers are derived from the ITS sequences of these fungi (AAT05394-T05404 and AAQ94398) and are strain specific. The amplification products of the reactions using these primers can be used with the capture primers AAT05378-93 in colourimetric assays. The primers and ITS DNAs can be used for the detection of specific fungal pathogen isolates and in monitoring disease development in plant populations.
                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 503 BP; 131 A; 127 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1; Page 55; 65pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mycosphaerella musicola; amplification; primer; ribosomal RNA gene; internal transcribed region; strain; capture; colourimetric assay; isolate; development; population; random amplified polymorphic DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA encoding intervening transcribed sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19-APR-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fusarium graminearum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Beck JJ,
    494
                                 301
                                                                435
                                                                                                                           376
                                                                                                                                                                                       326
                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                  266
                                                                                                                                                                                                                                                                                                              206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (CIBA ) CIBA GEIGY AG
                                                                                                                                                         181
                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                      1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcggaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       plant fungal pathogens
ctgaaggtaa
                                                                            99CCaagCCgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                         9c9gtctcgctgcagcttccattgcgtagtagtagaaaccctcgcaactggtacgcggcgc
                                                                                                                                                                                                  cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                             ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                               ctgaacttaa
                                                             ggctacgccgttaaa-
                                                                                                                        gcggtcacg-tcgaacttccatagcgtagtaagttacacatcgttactggtaatcgtcgc
                                                                                                                                                                                                                                                                                                         aaatgcgataagtaatgtgwattgcagaattcagtgaatcawcgaatctttgaacgcwsa
                                                                                                                                                                                  c---agvttggtgtkggggarytgcagkcc----trytkcactccccaaataarttg
                                                                                                                                                                                                                                             ttgckmccrccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                         248;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ligon JM
                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94US-0233608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95WO-US04712
   503
                                                            ·ccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                    58.2%;
                                                                                                                                                                                                                                                                                                                                                                       12;
                                                                                                                                                                                                                                                                                                                                                                    Score 180.4;
Pred. No. 6.8e
12; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                              108
                                                                                                                                                                                                                                                                                                                                                                                                                                              G;
                                                                                                                                                                                                                                                                                                                                                                                                                                              116 T;
                                                                                                                                                                                                                                                                                                                                                                                     .8e-53
                                                                                                                                                                                                                                                                                                                                                                                                DB 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                              21 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     used for
                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       detection
                                                                                                                                                                                                                                                                                                                                                                     12;
                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                           265
                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                        434
                                                                                                                                                                                    375
                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SS
                                                                                                                                                                                                                                                                                                                                                                    4.
```

Search completed: August 21, Job time: 5782 sec

2002,

22:22:42

```
Minimum DB
Maximum DB
                                                                                                                                                                                              Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                           0 0 0 0 0
                                                                                                                                                     იი
                                                                                                                                                                                                                                                  pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
          109.2
100.8
100.8
97.6
97.6
97.6
97.6
97.6
97.6
                                                                                                                                                                                              Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length: 0
length: 2000000000
                                                                                                                                                                                              Match
US-10-046-955-7
310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IDENTITY_NUC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 aaatgcgataagtaatgtga.....ggaatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      August 21, 2002,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13736207 seqs, 6748477542 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen
                                                                                                                                                                                                                                                                                                                                                                        gb_est1:*
                                                                                                                                                                                                                                                                                             gb_est2:*
gb_htc:*
gb_ys:*
gb_gs:*
em_gss_inv:*
em_gss_pln:*
em_gss_vrt:*
                                                                                                                                                                                                                                                                                                                                                                                                         em_estpl: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                    em_esthum: *
                                                                                                                                                                                                                                                                                                                                                                                              em_estro:*
                                                                                                                                                                                                                                                                                                                                                                                                                     em_estov:*
                                                                                                                                                                                                                                                                                                                                                                                                                                          em_estin:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 em_estba:*
                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                  estmu:
 214
213
318
846
893
995
995
1034
11098
1098
1098
1004
1004
1004
                                                                                                                                                                                                 DB
                                                                                                                                                    0 BF251183
AI209736
AI213025
CNS078ZQ
CNS079EG
CNS079EG
CNS0773Q
CNS0773Q
CNS076ZZ
CNS0769H
2027454
A2927454
A2927454
A29276778
CNS06KZ9
CNS06KZ9
CNS06KZ9
CNS06KZ9
                                                                                                                                                                                                 ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21:32:09 ;
                                                                                                                                                                                                                                 SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Search time 5019.06 Seconds (without alignments) 833.633 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ltd
AI213025 y6f0lal.f

AL434652 T7 end of

AL435182 T7 end of

AL435966 T7 end of

AL435967 T7 end of

AL431760 T7 end of

AL431760 T7 end of

AL431115 T7 end of

AL431115 T end of

AL431115 T7 end of

AL43115 T7 end of

AL43117 T7 end of

AL43117 T7 end of

AL4317 T7 end of

AL4317 T7 end of

AL403531 T7 end of

AL404672 T7 end of

AL404672 T7 end of
                                                                                                                                                       AI213025
                                                                                                                                                                BF251183 EST418443
AI209736 c7g08al.f
                                                                                                                                                                                                 Description
```

4 4 4 4 4 5 4 4 3 D	C 38 37 40	C 27 28 29 33 20 33 20 33 20 33 20 33 20 33 20 33 20 33 20 35 36 36 36 36 36 36 36 36 36 36 36 36 36	118 c 21 c 22 c 23 c 24 c 25
9 9 9 9 9 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	93.8 93.6 93.4 93.4	9955.60 944.60 944.60 944.60 944.60	00000000000000000000000000000000000000
30.0 30.0 30.0	30.2 30.1 30.1	30. 30. 30. 30. 30. 30. 30. 30. 30. 30.	31.0 31.0 31.0 31.0 31.0 31.0
725 823 867 879 896	1025 1037 900 929 675	1010 1029 939 440 480 503 508 518	969 971 982 994 1014 1027 1027 1042 1110
12 12 12	122	12 12 12 12 12 12 12 12	12 12 12 12 12 12 12
CNS06XR1 CNS06Y58 CNS06Z9V CNS06YXF	CNS06XIQ CNS06DGK CNS06DGK CNS06XE	CNS07C1H CNS07AHC CNS06KH6 AZ931033 AZ931805 AZ931107 AZ930634 AZ930634 AZ930375 CNS07DE3	CNS07D0M CNS07DPL CNS07CD5J CNS07CUY CNS07CI7 CNS07CHZ CNS07DYS CNS07DPS CNS07DPS
AL420083 T3 end of AL420594 T3 end of AL422057 T3 end of AL4220603 T7 end of AL421609 T7 end of	T7 end T7 end T7 end T7 end T7 end	T7 end T7 end T7 end 474 dhz 474 dhz 474 dhz 474 dhz 474 dhz 474 dhz	T7 end T3 end T3 end T3 end T7 end T7 end T7 end T7 end T3 end T3 end T3 end

ALIGNMENTS

```
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 1
BF251183
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
Query Match
Best Local S
Matches 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
144; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Coccidioides immitis.

Coccidioides immitis.

Coccidioides immitis

Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;

Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;

Onygenales; mitosporic Onygenales; Coccidioides.

1 (bases 1 to 214)

2 (bases 1 to 214)

2 (bases 1 to 214)

3 (bases 1 to 214)

2 (bases 1 to 214)

3 (bases 1 to 214)

3 (bases 1 to 214)

4 (bases 1 to 214)

3 (bases 1 to 214)

4 (bases 1 to 214)

4 (bases 1 to 214)

5 (bases 1 to 214)

6 (bases 1 to 214)

6 (bases 1 to 214)

1 (bases 1 to 214)

1 (bases 1 to 214)

2 (bases 1 to 214)

3 (bases 1 to 214)

4 (bases 1 to 214)

5 (bases 1 to 214)

6 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BF251183 214 bp mRNA linear EST 15-NOY-201 EST418443 Coccidioides immitis spherule cDNA library Coccidioides immitis cDNA clone CIAAD94 5' sequence, mRNA sequence. BF251183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Drive, Rockville, MD 20850, USA
Tel: 301 838 3519
Fax: 301 838 0208
Email: gardner@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BF251183.1 GI:16931326
                                                                                                                                                                                                                                           46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gardner@tigr.org.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                        /organism="Coccidioides immitis"
/db_xref="taxon:5501"
/clone="CIAAD94"
/clone_lib="Coccidioides immitis sp
/dev_stage="spherule"
/lab_host="SOLR"
                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                             /note="Vector: xho1"
                                          35.2%;
78.3%;
                                                                                                                                                                                                                                           54 c
Score 109.2; DB 10;
Pred. No. 9.3e-23;
0; Mismatches 38;
                                                                                                                                                                                                                                               62
                                                                                                                                                                                                                                                                                                                       pBluescript SK(-);
                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                               52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               immitis spherule cDNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                 spherule cDNA library"
                                                                                                                                                                                                                                                                                                                           Site_1: EcoR1; Site_2:
        Indels
                                                                           Length
                                                                                        214;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST 15-NOV-2001
        2
        Gaps
        ۲,
```

```
ô
                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 2
AI209736/c
                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOCOT
                                                                                                                                                                                                            Query Match
Best Local S
Matches 155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                             202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14
ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                    aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gcgg 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CACGGCTTGTGTGTTGGGCCAACGTCCCCGCTTGTG--TGGACGGGCCTGAAATGCAGTG 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTGCGCCCTCTGGTATTCCGGGGGGCATGCCTGTTCGAGCGTCATTGCAAACCCTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Contact: Bruce A. Roe, University of Oklahoma, Department of Chemistry and Biochemistry Advanced Center for Genome Technology, Universification Parrington Oval, Norman, OK 73019, USA Tel: 405 325 4912

Fax: 405 325 7762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AI209736 213 bp mRNA lin c7g08al.fl Aspergillus nidulans 24hr asexual d vegetative cDNA lambda zap library Emericella c7g08al 3', mRNA sequence.
AI209736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       An Aspergillus nidulans
Unpublished (1998)
Other ESTS: C7008al.rl
                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   We anticipate the future release
Genetics Stock Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eurotiales; Trichocomaceae; Emericella.

(bases 1 to 213)

Kupfer, D., Gray, J., Hausner, J., Lai, H., prade, R. and Roe, B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Emericella nidulans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: broe@ou.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Emericella nidulans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AI209736.1 GI:3771678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              primer: M13-20
                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                     43
                                                                                                                                                                                                                                                                                                                                                                                  ۵
                                                                                                                                                                                                                                                                                                                                                                            /clone_lib="Aspergillus nidulans 24hr asexual developmental and vegetative CDNA lambda zap library" /tissue_type="vegetative mycella, asexual structures" /note="Vector: pBlueScript SK-; Site_1: EcoRI; Site_2: xhoi; 5' end of cDNA cloned into EcoRI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript" 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of cDNA cloned into XhoI site of pBluescript 3' end of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Emericella nidulans"
/strain="FGSC A26"
/db.xref="faxon:162425"
/clone="c/908a1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                    32.5%;
74.5%;
                                                                                                                                                                                                            0,
                                                                                                                                                                                                      Score 100.8; DB 9
Pred. No. 3.3e-20;
0; Mismatches 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EST Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mRNA linear
24hr asexual deve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of the cDNA clones to
                                                                                                                                                                                                                                                            9:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Martin, W.,
                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 developmental
a nidulans cDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     broe@ou.edu
                                                                                                                                                                                                                                                               213;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of Oklahoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Aramayo, R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EST 19-OCT-1998
                                                                                                                                                                                                      6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the Fungal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDNA
                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    crone
                                                                                                                                                                                                   2:
```

```
BASE COUNT
ORIGIN
                                  Ş
                                                                            В
       밁
                                                                                                              9
                                                                                                                                                    Вþ
                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 3
AI213025/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                            Query Match
Best Local (
                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                              144
                                                                                                                                                      204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        142
                                                                                                                  61
                                                                                                                                                                   1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcggaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  84
CCCGGCTTGTGTGTTTGGGTCGTCGTCCCCCCCGGGG----GACGGGCCCGAAAGGCAGCG
                    cccgggtttggtgttggggatcggcaagcccttgcggcaagccggaccccgaaatctagtg
                                                                        TTGCGCCCCTGGCATTCCGGGGGGGCATGCCTGTCCGAGCGTCATTGCTGCCCTCAAG--
                                                                                           ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                              AACTGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAGTCTTTGAACGCACA 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCGGCACCGTGTCCGGTCCTCGAGCGTA 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gcggtctcgctgcagcttccattgcgta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCCGGCTTGTGTGTGTCGTCGTCCCCCCCGGGG----GACGGGCCCGAAAGGCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGCGCCCCCTGGCATTCCGGGGGGCATGCCTGTCCGAGCGTCATTGCTGCCCTCAAG--
                                                                                                                                                                                                                          155;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished (1998)
Other ESTs: y6f0lal.r1
Contact: Bruce A. Roe, University of Oklahoma, broe@ou.edu
Department of Chemistry and Biochemistry
Advanced Center for Genome Technology, University of Oklaho
620 Parrington Oval, Norman, OK 73019, USA
Tel: 405 325 4912
Tel: 405 325 7762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AI213025
318 bp mRNA linear EST 19-OCT-19: y6f0lal.fl Aspergillus nidulans 24hr asexual developmental and vegetative cDNA lambda zap library Emericella nidulans cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Seq primer: M13-20
High quality sequence stop: 265
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kupfer,D., Gray,J., Hausner,J., Lai,H.,
Prade,R. and Roe,B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eurotiales; Trichocomaceae; Emericella.
1 (bases 1 to 318)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: broe@ou.edu
We anticipate the future release
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            An Aspergillus nidulans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Fungi; Ascomycota; Pezizomycotina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Emericella nidulans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AI213025.1 GI:3774967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            y6f0lal 3', mRNA sequence.
                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Genetics Stock Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Emericella nidulans.
                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                   69
                                                                                                                                                                                                                                                                                                                                                  /clone_lib="Aspergillus nidulans 24hr asexual developmental and vegetative cDNA lambda zap library" /tissue_type="vegetative mycelia, asexual structures" /note="Vector: pBlueScript SK; Site_1: EcoRI; Site_2: XhoI; 5' end of cDNA cloned into EcoRI site of pBlueScript 3' end of cDNA cloned into XhoI site of pBluescript
                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="taxon:162425"
/clone="y6f01a1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Emericella nidulans"
/strain="FGSC A26"
                                                                                                                                                                                                                                                                                                                                 end of cDNA cloned into XhoI site of pBluescript* 93 c 88 g 68 t
                                                                                                                                                                                                                                      32.5%;
74.5%;
                                                                                                                                                                                                                     Score 100.8; DB Pred. No. 4e-20; Mismatches
                                                                                                                                                                                                                                                                                                                             88 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EST Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of
                                                                                                                                                                                                                                                         DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the
                                                                                                                                                                                                                         47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   University of Oklahoma USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Martin, W.,
                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             clones
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eurotiomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST 19-OCT-1998
                                                                                                                                                                                                                     6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the Fungal
                                                                                                                                                                                                                     Gaps
                                      180
                                                                          85
                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    83
                                                                                                                                                                                                                     2
```

Ş

181

```
JOURNAL
MEDLINE
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
CNS07820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                      Ş
                                                                                                                                                                                           BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                      Matches
                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30
                                                                      Local Similarity hes 120; Conser
1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     geggtetegetgeagetteeattgegta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCGGCACCGTGTCCGGTCCTCGAGCGTA 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (08 SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail: seqref(genoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S., de-Montigny, J., Duyon, B., Durrens, P., Lepingle, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozler-Kalogeropoulos, O., Potier, S., Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J. Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GSS.

Pichia angusta.

Pichia angusta

Pichia angusta

Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;

Saccharomycetales; Saccharomycetaceae; Pichia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CNS07820 846 bp DNA linear GSS 08-JUL-20
T7 end of clone BB0AA025B03 of library BB0AA from strain CBS 4732
of Pichia angusta, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 (bases 1 to 846)
Blandin,G., Llorente,B., Malpertuy,A., Wincker,P., Artiguenave,F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Genoscope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEBS Lett. 487 (1),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Genomic exploration of the hemiascomycetous yeasts: 13. Pichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and Dujon, B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AL434652.1 GI:12218066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AL434652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3 (bases 1 to 846)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20584723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 846)
                                                                                                                                                                                                                  224
                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                /organism-"Pichia angusta"
/strain-"CBS 4732"
/db_xref-"taxon:4905"
/clone-"BB0AA025B03"
/clone_lib-"BB0AA"
/note-"end : T7"
                                                                                                                                                                                                               /note part of rDNA repeats
contains 35S rDNA"
/evidence-not_experimental
165 c 188 g 267 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ocation/Qualifiers
                                                                                            31.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   76-81 (2000)
                                                                   Score 97.6; DB 12;
Pred. No. 5.8e-19;
0; Mismatches 19;
                                                                                                                                                                                                                       N
                                                                        Indels
                                                                                                                        846;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GSS 08-JUL-2001
                                                                        1;
                                                                        Gaps
                                                                        ب<u>ب</u>
```

```
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
CNS079EG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE
                                                                                                                                                                                                                                                                                             source
                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     462 AAATGCGATACGTAATGTGAATTGCAGATTTTCGTGAATCATTGAATCTTTGAACGCACA 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                 AL Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage,
2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail:
3 seqrefégenoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen
yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
exiguus, Saccharomyces servazzii, 2990saccharomyces rouxii,
Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia
angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila,
Candida tropicalis and Varrowia lipolytica. Genomic inserts of 3 to
5 kb were prepared and both extremities were sequenced. See
keywords for description of this sequence and for the sequence of
the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTCGGGTTTGGTGATGGGCA 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cccgggtttggtgttgggga 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   893 bp DNA linear GSS 08-JUL-200 T7 end of clone BB0AA028D03 of library BB0AA from strain CBS 4732 of Pichia angusta, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J. Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Souciet, J.L., Aiglé, M., Artiguenave, F., Blandin, G., Bolottin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S., de-Montign, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pichia angusta
Eukaryota; Fungi: Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Pichia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Genomic exploration of the hemiascomycetous yeasts: 13. Pichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Blandin, G., Llorente, B., Malpertuy, A., Wincker, P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pichia angusta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AL435182.1 GI:12218595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20584723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 893)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 893)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (bases 1 to 893)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Dujon, B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lett. 487 (1), 76-81 (2000)
                                                                                                                  /db_xref="taxon:4905"
/clone="BB0AA028D03"
/clone_lib="BB0AA"
/notes-"end: T7"
<1...>893
                    /evidence=not_experimental 160 c 226 g 261 t
                                                                    /note-"part of rDNA repeats contains 35S rDNA"
                                                                                                                                                                                                                                          /organism="Pichia angusta"
/strain="CBS 4732"
                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          eropoulos, O., Potier, S., Wesolowski-Louvel, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Artiguenave, F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GSS 08-JUL-2001
```

밁 ş Вþ γ

õ

밁

Indels Length 995;

::

Gaps

۲

others

```
JOURNAL
MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
MEDLINE
REFEKENCE
AUTHORS
TITLE
                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
CNS07A08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   175 CTCGGGTTTGGTGATGGGCA 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             56 AAATGCGATACGTAATGTGAATTGCAGATTTTCGTGAATCATTGAATCTTTGAACGCACA 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           l aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cccgggtttggtgttgggga 140
                                                                                                                                                                                                                                       lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and varrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail: seqrefégenoscope.cns.fr - Web: www.genoscope.cns.fr) This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bolotin-Fukuhara,M., Bon,E., Brottier,P., Casaregola,S., de-Montigny,J., Dujon,B., Durrens,P., Lepingle,A., Llorente,B., Malpertuy,A., Neuveglise,C., Ozier-Kalogeropoulos,O., Potier,S., Saurin,W., Tekala,F., Toffano-Nioche,C., Wesolowski-Louvel,M., Wincker,P. and Weissenbach,J.
Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies
FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                              exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pichia angusta
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Pichia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Genoscope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Blandin, G., Llorente, B., Malpertuy, A., Wincker, P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CNS07A08

995 bp DNA linear GSS 08-
T7 end of clone XBB0AA002E07 of library XBB0AA from strain
of Plohia angusta, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20584723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                angusta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Genomic exploration of the hemiascomycetous yeasts: 13. Pichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pichia angusta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AL435966.1 GI:12219379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dujon, B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lett. 487 (1), 76-81 (2000)
                                  /organism="Pichia angusta"
/strain="CBS 4732"
/db_xref="taxon.4905"
/clone="xBB0AA002E07"
/clone_lib="xBB0AA"
/note="end : T7"
<1...>995
              /note="part of rDNA repeats
                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31.5%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 97.6; DB 12; Pred. No. 6e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          893;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Artiguenave, F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GSS 08-JUL-2001
strain CBS 4732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ۳,
                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
CNS0773Q
LOCUS
                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       158 AAATGCGATACGTAATGTGAATTGCAGATTTTCGTGAATCATTGAATCTTTGAACGCACA 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           277 CTCGGGTTTGGTGATGGGCA 296
                                    ALI Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage,
2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRÂNCE. (E-mail:
seqref@genoscope.cns.fr - Web : www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen
yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii,
Saccharomyces kluyverori, Kluyveromyces thermotolerans, Kluyveromyces
lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia
angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila,
Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to
8 kb were prepared and both extremities were sequenced. See
keywords for description of this sequence and for the sequence of
the other extremity of this insert.

S Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 ttgogcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  l amatgcgatmagtmatgtgmattgcmamattcmgtgmatcatcgmatctttgmacgcmcm 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cccgggtttggtgttgggga 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTGCGCCCTCTGGTATTCCAGAGGGCATGCCTGTTTGAGCGTCATTTC-CCTCTCAAACC 276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Souclet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Bolotin-Fukuhara, M., Bon, E., Brottler, P., Casaregola, S., de-Montign, J., Dujon, B., Durrens, P., Lepingle, A., Liorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potter, S., Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J. Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies
                                                                                                                                                                                                                                                                                                                                                                                                                      Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CNS0773Q 999 bp DNA
T7 end of clone BBOAA009A07 of library BBOA
of Pichia angusta, genomic survey sequence.
AL432204
                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genomic exploration of the hemiascomycetous yeasts: 13. Pichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Blandin, G., Llorente, B., Malpertuy, A., Wincker, P., Artiguenave, F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20584711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEBS Lett. 487 (1), 76-81 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            angusta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetaceae; Pichia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pichia angusta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and Dujon,B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pichia angusta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AL432204.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 999)
                                                                                                                                                                                                                                                                                                                                                                                                                                            (bases 1 to 999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      274 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
/organism="Pichia angusta"
/strain="CBS 4732"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            contains 35S rDNA"
/evidence=not_experimental
a 173 c 242 g 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GI:12215618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             31.5%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 97.6; DB 12;
Pred. No. 6.3e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         p DNA linear GSS 08-JUL-2001
library BBOAA from strain CBS 4732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19;
```

```
JOURNAL
MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 8
CNS07922/c
                                                                                                                                                                  COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rocus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCGGGTTTGGTGATGGGCA 856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cccgggtttggtgttgggga 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGCGCCCTCTGGTATTCCAGAGGGCATGCCTGTTTGAGCGTCATTTC-CCTCTCAAACC 836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
Direct Submission

Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage, Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail: Seqref@genoscope.cns.fr - Web: www.genoscope.cns.fr)

This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayongs var. uvarum, Saccharomyces exiguus, Saccharomyces servazzli, Zygosaccharomyces rouxli, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces saccharomyces rouxli, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See
                                                                                                                                                                                                                                                                                                              Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S., de-Montigny, J., Dujon, B., Durrens, P., Lephngle, A., Llorente, B., Malpertuy, A., Neuvegiise, C., Ozier-Kalogeropoulos, O., Potier, S., Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J. Genomic exploration of the hemiascomycetous yeasts: 1. A set of PEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120;
                                                                                                                                                                                                                                                                     Genoscope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1034 bp DNA linear GSS 08-JUL-2001 T7 end of clone XBB0AA002E02 of library XBB0AA from strain CBS 4732 Of Pichia angusta, genomic survey sequence.
                                                                                                                                                                                                                                                                                                          20584711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Genomic exploration of the hemiascomycetous yeasts: 13. Pichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Blandin, G., Llorente, B., Malpertuy, A., Wincker, P., Artiguenave, F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pichia angusta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20584723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEBS Lett. 487 (1),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           angusta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     and Dujon,B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Saccharomycetales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pichia angusta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AL435957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (bases 1 to 1034)
                                                                                                                                                                                                                                                                                    (bases 1 to 1034)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 1034)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /db_xref="taxon:4905"
/clone="BBOAA009A07"
/clone_11b="BBOAA"
/note="end: T7"
<1...>999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /evidence=not_experimental 212 c 235 g 313 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="part of rDNA repeats contains 35S rDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GI:12219370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31.5%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Saccharomycetaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    76-81 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97.6;
No. 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 12;
5.3e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pichia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ٠,
```

```
JOURNAL
MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                       MEDLINE
REFERENCE
                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 9
CNS076RE/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     믕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                    TITLE
                                                                                            JOURNAL
                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            498 AAATGCGATACGTAATGTGAATTGCAGATTTTCGTGAATCATTGAATCTTTGAACGCACA 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 aaatgogataagtaatgtgaattgcaaaattcagtgaatcatcgaaatctttgaacgcaca
                                                                                                                                               20544/23
2 (bases 1 to 1094)
2 (bases 1 to 1094)
Souciet,J.L., Aigle,M., Artiguenave,F., Blandin,G.,
Bolotin-Fukuhara,M., Bon,E., Brottier,P., Casaregola,S.,
de-Montigny,J., Dujon,B., Durrens,P., Lepingle,A., Llorente,B.,
Malpertuy,A., Neuveglise,C., Ozier-Kalogeropoulos,O., Potier,S.,
Saurin,W., Tekaia,F., Toffano-Nioche,C., Wesolowski-Louvel,M.,
Wincker,P. and Weissenbach,J.
Genomic exploration of the hemiascomycetous yeasts: 1. A set of
yeast species for molecular evolution studies
FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cccgggtttggtgttgggga 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCGGGTTTGGTGATGGGCA 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTGCGCCCTCTGGTATTCCAGAGGGCATGCCTGTTTGAGCGTCATTTC - CCTCTCAAACC
pubmitted (08-SEP-2000) Genoscope - Centre National de Sequencage,
2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail:
seqref@genoscope.cns.fr - Web : www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen
yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pichia angusta

Bukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Pichia.

1 (bases 1 to 1094)

Blandin,G., Llorente,B., Malpertuy,A., Wincker,P., Artiguenave,F.
                                                                              Submitted (08-SEP-2000) Genoscope -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120;
                                                                                                           Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CNS076RE 1094 bp DNA linear GSS (TP) end of clone BB0AA006D05 of library BB0AA from strain of Pichia angusta, genomic survey sequence.
                                                                                                                            Genoscope.
                                                                                                                                                                                                                                                                                                                                                                                                                                        Genomic exploration of the hemiascomycetous yeasts: 13. Pichia
                                                                                                                                                                                                                                                                                                                                                                                          20584723
                                                                                                                                                                                                                                                                                                                                                                                                        FEBS Lett. 487 (1), 76-81 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AL431760.1 GI:12215174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          keywords for description of this sequence and for the sequence the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contains 35S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /evidence-not_experimental 241 c 208 g 263 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="part of rDNA repeats contains 35s rDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <1. .>1034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /clone_lib="XBBOAA"
/note="end : T7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Pichia angusta"
/strain="CBS 4732"
/db_xref="taxon:4905"
/clone="XBB0AA002E02"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31.5%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 97.6; DB 12;
Pred. No. 6.4e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1034;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ۲,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Caps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ۲
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 10
CNS07812/c
      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FOCUS
                     JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                   TITLE
                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 120; Conserv
                                                                                                                                                                                                                                                    MEDLINE
                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 cccgggtttggtgttgggga 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCGGGTTTGGTGATGGGCA 681
                           Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G.,
Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S.,
de-Montigny, J., Dulon, B., Durrens, P., Lepingle, A., Llorente, B.,
Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potler, S.,
Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M.,
Wincker, P. and Weissenbach, J.
Genomic exploration of the hemiascomycetous yeasts: 1. A set of
yeast species for molecular evolution studies
FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                         Pichia angusta
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Pichia.
1 (bases 1 to 1098) unimportuv A. Wincker, P., Artiguenave, F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CNS07812 1098 bp DNA linear GSS 08-JU
T3 end of clone BB0AA017B06 of library BB0AA from strain CBS
of Pichia angusta, genomic survey sequence.
                     20584711
                                                                                                                                                                                                                                                            FEBS Lett. 487 (1), 76-81 (2000)
                                                                                                                                                                                                                                                                                      angusta
                                                                                                                                                                                                                                                                                                   Genomic exploration of the hemiascomycetous yeasts: 13. Pichia
                                                                                                                                                                                                                                                                                                                                       Blandin, G., Llorente, B., Malpertuy, A., Wincker, P., Artiguenave, F
                                                                                                                                                                                                                                               20584723
                                                                                                                                                                                                                                                                                                                                 and Dujon, B
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pichia angusta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AL433404.1 GI:12216818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
(bases 1
                                                                                                                                                                                                                            (bases 1 to 1098)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone_lib="BBOAA"
/note="end : T7"
<1. .>1094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="part of rDNA repeats contains 35s rDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /evidence≃not_experimental
269 c 192 g 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Pichia angusta"
/strain="CBS 4732"
/db_xref="taxon:4905"
/clone="BBOAA006D05"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
  to 1098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . 1094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             31.5%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 97.6; DB 12;
Pred. No. 6.5e-19;
D; Mismatches 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1094;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GSS 08-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1:
```

Ş В á Ŷ

밁

```
JOURNAL
MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                               KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 11
CNS0769H/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                     AUTHORS
                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      827 AAATGCGATACGTAATGTGAATTGCAGATTTTCGTGAATCATTGAATCTTTGAACGCACA 768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              l aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cccgggtttggtgttgggga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTCGGGTTTGGTGATGGGCA 689
Souciet, J.L., Aijle, M., Artiguenave, F., Blandin, G., Bolottin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S., de-Montigny, J., Dujon, B., Durens, P., Lepingle, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S., Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J.
                                                                                                                                                                                                                                                                                                                                                                                                                             CNS0769H

77 end of clone BB0AA002A09 of library BB0AA from strain CBS 4732 of Pichia angusta, genomic survey sequence.

AL431115
                                                                                                                                                                                                                                                 Blandin, G., Llorente, B., Malpertuy, A., Wincker, P.,
                                                                                                                                  2 (bases 1 to 981)
                                                                                                                                                                           FEBS Lett.
                                                                                                                                                                                                     angusta
                                                                                                                                                                                                              Genomic exploration of the hemiascomycetous yeasts: 13. Pichia
                                                                                                                                                                                                                                        and Dujon, B.
                                                                                                                                                                                                                                                                           Saccharomycetales; Saccharomycetaceae;
1 (bases 1 to 981)
                                                                                                                                                            20584723
                                                                                                                                                                                                                                                                                            Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetales; Saccharomycetaceae; Pichia.
                                                                                                                                                                                                                                                                                                                                               Pichia angusta
                                                                                                                                                                                                                                                                                                                                                              Pichia angusta.
                                                                                                                                                                                                                                                                                                                                                                                                         AL431115.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE: (E-mail: sequefégenoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveromyces thermotolerans, Kluyveromyces lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia scribitophila, candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to kere prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (08-SEP-2000)
2 rue Gaston Cremieux, (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /evidence=not_experimental
268 c 193 g 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="part of rDNA repeats contains 35s rDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <1. .>1098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /clone_lib="BBOAA"
/note="end : T3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /db_xref="taxon:4905"
/clone="BB0AA017B06"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Pichia angusta"
/strain="CBS 4732"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                       487 (1),
                                                                                                                                                                                                                                                                                                                                                                                                         GI:12214527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31.5%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       140
                                                                                                                                                                           76-81 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 97.6; DB 12; Pred. No. 6.5e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Genoscope - Centre National de Sequencage, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     298 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1098;
                                                                                                                                                                                                                                                     Artiguenave, F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GSS 07-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ٠.
```

```
SOURCE
ORGANISM
                                                                                                                                                                                                                                      VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                       RESULT 12
AZ927454/c
                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE
REFERENCE
AUTHORS
TITLE
                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                        rocus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                              TITLE
                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                          672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cccgggtttggtgttgggga 140
                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCGGGTTTGGTGATGGGCA 653
                  Unpublished (2001)
Contact: Johnston M
                                                                      1 (bases I to 515)
Cliften, P.F., Hillier, L.W., Fulton, L., Graves, T., Miner, T., Gish, Waterston, R.H. and Johnston, M.
Surveying Saccharomyces genomes to identify functional elements by
                                                                                                                                               Saccharomyces castellii.
Saccharomyces castellii
Saccharomyces castellii
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                      GSS.
                                                                                                                                                                                                                                                                              castellii genomic clone AZ927454
                                                                                                                                                                                                                                                                                      A2927454
515 bp DNA linear GSS 01-APR-2001 476.dit25a06.sl Saccharomyces castellii NRRL Y-12630 Saccharomyces castellii genomic clone 476.dit25a06.sl, DNA sequence.
                                                   comparative DNA sequence
                                                                                                                                                                                                                                                         AZ927454.1 GI:13498358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRY Cedex, FRANCE. (E-mail: seqrefqeenoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. warum, Saccharomyces servazzii. Zyosasccharomyces rouxii, Saccharomyces kluyveromyces thermotolerans, Kluyveromyces lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
Department of Genetics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies
YEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 981)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /evidence=not_experimental 239 c 165 g 276 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="part of rDNA repeats contains 25S rDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    contains 25S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <1. .>981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Pichia angusta"
/strain="CBS 4732"
/db_xref="taxon:4905"
/clone="BBOAA002A09"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone_lib="BBOAA"
/note="end : T7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             31.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 97.2; DB 12; Pred. No. 8.2e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                    identify functional elements by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 981;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 13
AZ926778/c
LOCUS
                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE CO
                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Simi
Matches 112;
                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 cccgggtttggtgttggg 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    233 CTCTTCTTTGGTAGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         353 AAATGCGATACGTAATGTGAATTGCAGAATTCCGTGAATCATCGAATCTTTGAACGCACA 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcggaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGCGCCCCTTGGTATTCCAGGGGGCATGCCTGTTTGAGCGTCATTTCCTTCTCAAAGAA
                                                                                                                                                                                                          Contact: Johnston M
Department of Genetics
Washington University Medical School
Box 8232, 4566 Scott Ave., St. Louis,
Tel: 314 362 2735
Fax: 314 362 7855
                                                                                                                                                                                                                                                                                                                                                                           1 (bases 1 to 522)
Cliften, P.F., Hillier, L.W., Fulton, L., W.R., Waterston, R.H. and Johnston, M.
                                                                                                                                                                          Email: mj@genetics.wustl.edu
Class: random plasmid subclone.
                                                                                                                                                                                                                                                                                                                                                         Surveying Saccharomyces genomes to
                                                                                                                                                                                                                                                                                                                                                                                                                         Saccharomyces castellii.
Saccharomyces castellii
Saccharomyces castellii
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   476.dislle02.sl Saccharomyces castellii NRRL Y-12630 Saccharomyces castellii genomic clone 476.dislle02.sl, DNA sequence.
                                                                                                                                                                                                                                                                                                                            comparative DNA sequence analysis Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AZ926778.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Washington University Medical School Box 832, 4566 Scott Ave., St. Louis, MO 63110, USA Tel: 314 362 2735 Fax: 314 362 7855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        h 31.1%;
Similarity 81.2%;
               156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              random plasmid subclone.
Location/Qualifiers
1. .515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mj@genetics.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ø
 /clone_11b="Saccharomyces castell11 NRRL Y-12630"
/note="Random genomic sequence"
106 c 107 g 153 t
                                                                                 /organism="Saccharomyces castellii"
/strain="NRRL Y-12630 (CBS 4309)"
/db_xref="taxon:27288"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /Organism="Saccharomyces castellii"
/strain="NRRL Y-12630 (CBS 4309)"
/db_xref="taxon:27288"
/clone="476.dit25a06.s1"
/clone_lib="Saccharomyces castellii NRRL Y-12630"
/note="Random genomic sequence"
108 c 107 g 143 t
                                                                 /clone="476.dislle02.sl"
                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GI:13497680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 96.4; DB 12; Pred. No. 1.1e-18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                           identify functional elements
                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26;
                                                                                                                                                                                                                                                                                                                                                                                              Graves, T., Miner, T., Gish
                                                                                                                                                                                                                                               63110, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     515;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GSS 01-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                           Š
```

0;

0

```
JOURNAL
MEDLINE
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 1
CNS06KZ9
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                               misc_feature
                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121 cccgggtttggtgttggg 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity 81.3 ies 112; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGCGCCCCTTGGTATTCCAGGGGCATGCCTGTTTGAGCGTCATTTCCTTCTCAAAGAA 284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCTTCTTTGGTAGTGAG 266
                                                                                                                                                                                                          exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Bolotin-Fukuhara, M., Bon, E., Brottler, P., Casaregola, S., de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potler, S., Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J. Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies
FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   870 bp DNA linear GSS 17-JUN-200
T7 end of clone ATOAA009C05 of library ATOAA from strain CBS 4311
of Saccharomyces servazzii, genomic survey sequence
AL403531
                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (07-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EWRY cedex, FRANCE. (B-mail: seqref@genoscope.cns.fr) Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Casaregola, S., Lepingle, A., Bon, E., Neuveglise, C., Nguyen, H., Artiguenave, F., Wincker, P. and Gaillardin, C. Genomic exploration of the hemiascomycetous yeasts: 7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Genoscope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20584711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEBS Lett. 487 (1), 47-51 (2000) 20584717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Saccharomyces servazzii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Saccharomyces servazzii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Saccharomyces servazzii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AL403531.1 GI:12163884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 870)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (bases 1 to 870)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (bases 1 to 870)
                          /note-"part of rDNA repeats"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             31.1%;
81.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 96.4; DB 12; Pred. No. 1.1e-18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                 servazzii"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 522;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GSS 17-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BASE CO
                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CNS06KGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Snoor
                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                               L Submitted (07-SEP-2000) Genoscope - Centre National de Sequencage,
2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail:
3 seqref@genoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen
yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii,
Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
lactis var. lactis, Kluyveromyces thermotolerans, Kluyveromyces
lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia
angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila,
Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to
5 kb were prepared and both extremities were sequenced. See
keywords for description of this sequence and for the sequence of
the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAATGTTTGGTTGTGAGTGAT 715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cccgggtttggtgttggggat 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTGCGCCCTCTGGTATTCCAGGGGGCATGCCTGTTTGAGCGTCATTTCCTTCTCAAACAG 694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               al Similarity 80.1
113; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S., de-Montigny, J., Dion, B., Durrens, P., Lepingle, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S., Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J. Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Casaregola, S., Lepingle, A., Bon, E., Neuveglise, C., Nguyen, H., Artiguenave, F., Wincker, P. and Gaillardin, C. Genomic exploration of the hemiascomycetous yeasts: 7.
Saccharomyces servazzii
FEBS Lett. 487 (1), 47-51 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CNS06KGF 1004 bp DNA linear GSS 17-JUN-20 13 end of clone AT0AA005B03 of library AT0AA from strain CBS 4311 of Saccharomyces servazzii, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                           Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEBS Lett. 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Saccharomyces servazzii
                                                                                                                                                                                                                                                                                                                                                                                                                     Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20584717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Saccharomycetales; S
1 (bases 1 to 1004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Saccharomyces servazzii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AL402853.1 GI:12162391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (bases 1 to 1004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 1004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             214 a
/organism="Saccharomyces servazzii"
/strain="CBS 4311"
/db_xref="taxon:27293"
                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /evidence=not_experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 96.2; DB 12;
Pred. No. 1.6e-18;
0; Mismatches 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 870;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GSS 17-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
```

```
BASE COUNT
ORIGIN
                                                                                                       Ŷ
                                                                  Qy
                                                                                         В
                                                                                                                                 망
                                                                                                                                               δ
Search completed: August 21, 2002, 21:32:13 Job time: 12512 sec
                                                   밁
                                                                                                                                                                       Query Match 31.0%; Score 96.2; DB 12; Length 1004; Best Local Similarity 80.1%; Pred. No. 1.7e-18; Matches 113; Conservative 0; Mismatches 28; Indels 0;
                                                                                                                                                                                                                                                                misc_feature
                                                 258 a
                                                                                                                                                                                                                                                                /clone="ATOAA005B03"
/clone_lib="ATOAA"
/note="end : T3"
<l .>1004
                                                                                                                                                                                                                                   /note="part of rDNA repeats"
/evidence=not_experimental
211 c 247 g 276 t
                                                                                                                                                                                                                                     12 others
                                                                                                                                                                           Indels 0;
                                                                                                                                                                           Gaps
                                                                                                                                                                            0;
```

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          오
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Minimum DB seq length: 0 Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Run. on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nucleic -
    14
15
16
16
17
17
18
19
20
20
20
22
22
23
23
24
27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. score grea
  306.8
249.2
231.2
225.2
225.2
227.2
224.2
2197.6
1186.6
1186.6
1186.6
1186.6
1183.2
1183.2
1183.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
1180.4
11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   No. is the number of results predicted by chance to have a greater than or equal to the score of the result being printed, s derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Issued_Patents_NA:*

1: /cgn2_6/ptodata/1/
2: //gn2_6/ptodata/1/
3: /cgn2_6/ptodata/1/
4: /cgn2_6/ptodata/1/
5: //gn2_6/ptodata/1/
6: /cgn2_6/ptodata/1/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Match
    Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-046-955-7
310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            August 21, 2002, 22:12:25; Search time 138.45 Seconds (without alignments) 549.992 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  383533 seqs, 122816752 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 aaatgcgataagtaatgtga.....ggaatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GenCore version 4.5
Copyright (c) 1993 - 2000 Comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /cgn2_6/ptodata/1/ina/5A_COMB.seq:*
/cgn2_6/ptodata/1/ina/5B_COMB.seq:*
/cgn2_6/ptodata/1/ina/5B_COMB.seq:*
/cgn2_6/ptodata/1/ina/6B_COMB.seq:*
/cgn2_6/ptodata/1/ina/6B_COMB.seq:*
/cgn2_6/ptodata/1/ina/backfiles1.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
    ₽B
US-09-645-073-1
US-08-652-127C-8
US-08-652-127C-7
US-08-652-127C-6
US-08-652-127C-6
US-08-652-127C-6
US-08-887-480-96
US-08-905-314A-22
US-08-905-314A-19
US-08-985-04712-82
US-08-985-04712-82
US-08-985-727-14
US-08-985-727-187-83
US-08-985-727-187-83
PCT-US95-04712-85
US-08-986-727-1
US-08-986-727-2
US-08-986-727-2
US-08-986-727-2
US-08-986-727-2
US-08-986-727-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               767066
    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Description
    1. Appli
8.4. Appli
7. Appli
5. Appli
5. Appli
96. Appli
82. Appli
82. Appli
82. Appli
82. Appli
82. Appli
83. Appli
84. Appli
83. Appli
83. Appli
85. Appli
85. Appli
85. Appli
87. Appli
88. Appli
89. Appli
80. Appli
80. Appli
81. Appli
82. Appli
83. Appli
85. Appli
86. Appli
87. Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       310
```

04 05 05 05 05 05 05 05 05 05 05 05 05 05	US CONTRACTOR OF THE CONTRACTO	
197 203 203 209 215 215 221 221 222 222 222	SULT -09-64: -09-64: Sequent Sequent APPLI	44446666666666666666666666666666666666
	1 5-073-1 ce 1, Application US/09645073 ce 1, MUMBER: US/09/645,073 ce 1, Application UMMBER: US/09/645,073 ce 1, MUMBER: US/09/645,073 ce 1, Application Gaberelling US/09/645 ce 1, Application Gaberelling US/09/645 ce 1, Application US/09/645 ce 1, Application Gaberelling US/09/645 ce 1, Application US/09/645 ce 1, Appl	125.2 40.4 627 1 US-OB-233-608-47 Sequence 47, Appl 125.2 40.4 627 1 US-OB-887-480-47 Sequence 47, Appl 125.2 40.4 627 2 US-OB-722-187-47 Sequence 47, Appl 125.2 40.4 627 5 PCT-US95-04712-47 Sequence 47, Appl 125.2 40.4 627 5 PCT-US95-04712-47 Sequence 47, Appl 124.4 40.1 556 1 US-OB-887-480-85 Sequence 85, Appl 124.4 40.1 556 1 US-OB-968-705-6 Sequence 6, Appl 123.6 39.9 626 1 US-OB-968-05-6 Sequence 6, Appl 123.6 39.9 626 1 US-OB-874-80-3 Sequence 3, Appl 123.6 39.9 626 1 US-OB-872-187-3 Sequence 3, Appl 123.6 39.9 626 2 US-OB-722-187-3 Sequence 3, Appl 123.6 39.9 626 4 US-O9-635-747-38 Sequence 3, Appl 123.6 39.9 626 5 PCT-US95-04712-3 Sequence 4, Appl 122 39.4 627 1 US-OB-887-480-4 Sequence 4, Appl 122 39.4 627 2 US-OB-722-187-3 Sequence 4, Appl 122 39.4 627 2 US-OB-723-608-4 Sequence 4, Appl 122 39.4 627 2 US-OB-722-187-3 Sequence 4, Appl 122 39.4 627 5 PCT-US95-04712-4 Sequence 4, Appl 122 39.4 627 5 PCT-US95-04712-4 Sequence 4, Appl 122 39.4 627 5 PCT-US95-04712-4 Sequence 4, Appl 132 Sequence 5, Appl 132 Sequence 6, Appl 132 Sequence 6
	o, and a second	

```
US-08-905-314A-24

: Sequence 24, Application US/08905314A

: Patent No. 5827695
 ş
                                                                                                                                 US-08-905-314A-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: 38,241
REFERENCE/DOCKET NUMBER: CGC:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (919) 541-8587
TELEPAX: (919) 541-8689
INFORMATION FOR SEQ ID NO: 24:
SEQUENCE CHARACTERISTICS:
LENGTH: 561 base pairs
TYPE: nucleic acid
STRANDEDNESS: *i~~1
                                   Query Match
Best Local Similarity
Matches 285; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: BECK, James J.
TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS
TITLE OF INVENTION: USING THE POLYMERASE CHAIN REACTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0.
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE:
ORIGINAL SOURCE:
STRAIN: Fusar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION: NAME: Meigs, J. Timothy REGISTRATION NUMBER: 38,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 5827695artis Corporation Patent Department
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: misc_ feature LOCATION: 1..30 OTHER INFORMATION: /note OTHER INFORMATION: rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET:
                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: misc_feature
LOCATION: 31..181
OTHER INFORMATION: /note= "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN: Fusarium avenaceum INDIVIDUAL ISOLATE: 64452 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                   NAME/KEY: misc_ feature LOCATION: 505..561
OTHER INFORMATION: /note= "5' end of large subunit OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/905,314A
                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                        NAME/KEY: misc_ feature LOCATION: 182..338
                                                                                                                                                                                                                                            OTHER INFORMATION:
                                                                                                                                                                                                                                                               NAME/KEY: misc_feature LOCATION: 339.504
1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20779-2257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Research Triangle Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  : /note= "3'
: rRNA gene"
                                                         80.6%;
                                                                                                                                                                                                                                                                                                                      /note=
                                                                                                                                                                                                                                              /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Release #1.0, Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGC 1944
                                       Score 249.8;
Pred. No. 3.2e
1; Mismatches
                                                                                                                                                                                                                                                "ITS
                                                                                                                                                                                                                                                                                                                      .8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          end of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R-4045 (consensus sequence)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            small subunit
                                         3; DB 1;
3.2e-72;
hes 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  #1.30
                                                                          Length
                                           Indels
                                                                              561;
                                           2;
                                         Gaps
```

2;

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-652-127C-8
        B
                                                    8
                                                                                                                                                                                                                                                          US-08-652-127C-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 8, Application US/08652127C Patent No. 5792611 GENERAL INFORMATION:
                                                                                                                 Matches 281;
                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OPERATING STATES OPERATION OF ASCII
CURRENT APPLICATION NUMBER: US/08/6
APPLICATION NUMBER: US/08/6
FILING DATE: May 23, 1996
FILING DATE: May 23, 1996
THE STREET OF THE STATES OF THE 
                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (613) 232-583
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Richard C. TITLE OF INVENTION: DI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE: (613) 232-5815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: George A. Seaby
REGISTRATION NUMBER: 24,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 531 GCTGAACTTAA 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           257
                                                                                                                                                                                                                                                                                                                                         TYPE: n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                              STRANDEDNESS: dou
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: George A. Seaby ADDRESSEE: Seaby & MacLean
                                                                                                                 Local Similarity 90.4
mes 281; Conservative
gctgaacttaa 310
||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGCCATGCCG-TAAAACCCCCAACTTCTGAATGTTGACCTCGGATCAGGTAGGAATACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaataccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ggcggtctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactggtacgcggcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           K1R 6K7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ottawa
                                                                                                                                                                                                                                                                                                                                nucleic acid
                                                                                                                                                                                                                                                                                                                                                                      583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               880 Wellington Street, Suite 708
                                                                                                                                                                                                                                                                                                                                                                                                                       (613) 232-5831
(613) 7D NO: 8:
                                                                                                                                                                                                                                                                                                            double
                                                                                                                                           74.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PATHOGEN FUNGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DETECTION OF PLANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hamelin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US/08/652,127C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24,034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1898
                                                                                                                    0;
                                                                                                                 Score 231; DB 1;
Pred. No. 4.4e-66;
0; Mismatches 25;
                                                                                                                                                                        Length 583;
                                                                                                                       Indels
                                                                                                                       Ş
                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                239
                                                                                                                       Ψ
```

```
밁
                          ş
                                                         В
                                                                                   ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ş
                                                                                                                                                                                          ; TOPOLOGY: linear US-08-652-127C-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-652-127C-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: GEOTGE A Seaby
REGISTRATION NUMBER: 24,034
REFERENCE/DOCKET NUMBER: 1898
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 232-5815
TELEPAX: (613) 232-5831
INFORMATION FOR SEQ ID NO: 7:
                                                                                                                  Query Match
Best Local Similarity
Matches 277; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 7, Application US/08652127C Patent No. 5792611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Richard of TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
ADDRESSEE: George A. Seaby
ADDRESSEE: Seaby 6 MacLean
                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
263
                                                         203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                           61
                                                                                                                                                                                                                      TYPE: nucleic acid
STRANDEDNESS: doub
                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/OB, FILING DATE: May 23, 1996 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                            OPERATING SYSTEM:
SOFTWARE: ASCII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC Compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET:
             ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                      aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcggaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gcggtctcgctgcagcttccattgcgtagtagtagaaaccctcgcaactggtacgcggcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCTGAACTTAA 563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCGGTCTCGCTGTAGCTTCCTCTGCGTAGTAGCACACCTCGC---ACTGGGAAACAGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCCGGGCTTGGTGTTGGGGGATCGGCGAGCCTCCGC-GCCCGCCGTCCCCTAAATCTAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGCGCCCGCTAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                         AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 xr: Canada
K1R 6K7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ottawa
                                                                                                                                                                                                                                                     531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                880 Wellington Street, Suite 708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Richard C. Hamelin
VENTION: DETECTION OF PLANT
VENTION: PATHOGEN FUNGI
                                                                                                                   Conservative
                                                                                                                                                                                                                        double
                                                                                                                              72.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10
                                                                                                                                                                                                                                                                                                                                                                                                                                  us/08/652,127C
                                                                                                                Score 225.2; DB 1;
Pred. No. 3.3e-64;
0; Mismatches 30;
                                                                                                                                                                                                                                                                                                                                           1898
                                                                                                                                            Length 531;
                                                                                                                   Indels
                                                                                                                   5.
                                                                                                                  Gaps
                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                   Ψ
```

```
δõ
                                                  밁
                                                                              Q
                                                                                                              밁
                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 5
US-08-652-127C-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                           ; TOPOLOGY: US-08-652-127C-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 6, Application US/08652127C Patent No. 5792611 GENERAL INFORMATION:
                                                                                                                                                                              Matches
                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 232-5831
TELEPAX: (613) 232-5831
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ZIP: KIR 6K/
ZIP: KIR 6K/
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette
COMPUTER: IBM PC COMPATIBLE
COMPUTER: COMPATIBLE
COMPUTER: COMPATIBLE
COMPUTER: COMPATIBLE
COMPUTER: COMPATIBLE
COMPUTER: COMPATIBLE
COMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: George A. Seaby
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             299
                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: George A. Seaby
REGISTRATION NUMBER: 24,
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/652,127C FILING DATE: May 23, 1996 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: George A. Seaby
ADDRESSEE: Seaby & MacLean
STREET: 880 Wellington Str
                                                                              61
                                                                                                                                                                                                                                                                                          STRANDEDNESS:
                                                                                                                                                                                                                                                                                                         TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                        LENGTH:
                                                                                                                             l aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60
cccgggtttggtgttggggatcggcaag-cccttgcggcaagccggccccgaaatctagt 179
                                                               ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCTGAACTTAA 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cggccaagccgttaaacccccaacttctg-aatgttgacctcggatcaggtaggaatacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ggcggtctcgctgcagcttccattgcgtagtagtagaaaccctcgcaactggtacgcggcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCGGGCTTGGTGTTGGAGATNGGCGTGCCCCCCGGGGGCGCGCCCCGCTCCTAAATATAGT
                                               TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCC
                                                                                                           AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cgctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGCCACGCCGTTAAACCCCCCCACTTCTGAAAGGTTGACCTCGGATCAGGTAGGAATACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGCGGTCTCGCTGTAGCTTCCTCTGCGTAGTAGCACACCTCGC---ACTGGAAAACAGCG
                                                                                                                                                                              276;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ottawa
                                                                                                                                                                                                                                                                                                                           581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                880 Wellington Street,
                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Richard C. Hamelin
VENTION: DETECTION OF PLANT
VENTION: PATHOGEN FUNGI
                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                           double
                                                                                                                                                                                          72.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10
                                                                                                                                                                                                                                                                                                                                                                                                                                     24,034
                                                                                                                                                                                                                                                                                                                                                                                                                       1898
                                                                                                                                                                         Score 224.2; DB 1;
Pred. No. 7.1e-64;
1; Mismatches 30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Suite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  708
                                                                                                                                                                                                         Length 581;
                                                                                                                                                                           Indels
                                                                                                                                                                           Ģ
                                                                                                                                                                         Gaps
                                               372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       439
                                                                                                                                                                           ω
••
```

```
Q
   ş
                                                           Ş
                                                                                         망
                                                                                                                      ş
                                                                                                                                                     В
                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                 밁
                                                                                                                                                                                                                                                                                          US-08-652-127C-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-652-127C-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 5, Application US/08652127C Patent No. 5792611
                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (613) 232-5815
TELEFAX: (613) 232-5831
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OPERATING SYSTEM: PC-D
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette
COMPUTER: IBM PC Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: 18 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/08
FILING DATE: May 23, 1998
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         490
173 atctagtggcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggta 232
                                                                                                                                                    550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240 cggccaagccgttaaaccccccaacttctg-aatgttgacctcggatcaggtaggaatacc 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180 ggcggtctcgctgcagcttccattgcgtagtagtagtaaaacccttcgcaactggtacgcggcg
                                 378
                                                               121
                                                                                            318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   433 GGCGGTCTCGCTGTAGCTTCCTCTGCGTAGTAGCACCTCGC---ACTGGAAAACAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              373 CCCGGGCTTGGTGTTGGAGATCGGCGTGCCCCCCGGGGCGCGCCCNSCTCCCAAATATAGT
                                                                                                        61 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                      TYPE: nucleic acid STRANDEDNESS: doub
                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: George A. Seaby REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: K1R 6K7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                Local Similarity es 271; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
ADDRESSEE:
                                                                                                                                                                                                                                                                                                         POPOLOGY:
                                                                                                                                                                                                                                                                                                                                                    LENGTH:
                                                CCTTCGGGAGCTTGGTGTTGGGGATCGGCAGGGCGTCCTCCGGGTCGCGCCGTCCCCCAA 437
                                                                                         TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCA 377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCTGAACTTAA 561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cgctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGCCACGCCGTTAAACCCCCCCACTTCTGAAAGGTTGACCTCGGATCAGGTAGGAATACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ottawa
                                                                                                                                                                                                                                                                                                                                                     594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    880 Wellington Street, Suite 708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Canada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Richard C.
                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Seaby & MacLean
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               George A. Seaby
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Мау 23, 1996
                                                                                                                                                                                                                                                                                                                        double
                                                                                                                                                                                                                            63.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PATHOGEN FUNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DETECTION OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US/08/652,127C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hamelin
                                                                                                                                                                                                                                                                                                                                                                                                                                                       24,034
                                                                                                                                                                                                                                                                                                                                                                                                                                            1898
                                                                                                                                                                                                              Score 197.8; DB 1
Pred. No. 2.9e-55;
0; Mismatches 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PLANT
                                                                                                                                                                                                                                          DB 1;
                                                                                                                                                                                                                37;
                                                                                                                                                                                                                                          Length 594;
                                                                                                                                                                                                                Indels
                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                239
                                                                                                                                                                                                              4
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-887-480-96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 96, Application US/08887480
Patent No. 5814453
GENERAL INFORMATION:
APPLICANT: Beck, James J
TITLE OF INVENTION: Detection of Fungal Pathogens Using the TITLE OF INVENTION: Polymerase Chain Reaction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/722,187
FILING DATE: 15-OCT-1996
ATTORNEY/AGENT INFORMATION:
NAME: Medgs, J. Timothy
REGISTRATION NUMBER: 38,241
REFERENCE/DOCKET NUMBER: CGC 1739/P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE: 919-541-85
TELEFAX: 919-541-8689
INFORMATION FOR SEQ ID NO:
                                                                                                            NAME/KEY: misc_feature
LOCATION: 1..30
OTHER INFORMATION: /note= "3' end of small subunit
OTHER INFORMATION: rRNA gene"
FEATURE:
                                                                                                                                                                                                                                                             MOLECULE TYPE: DNA (genomic)
ORIGINAL SOURCE:
STRAIN: FUSATium poae
INDIVIDUAL ISOLATE: T-427, T-1
INDIVIDUAL ISOLATE: sequence)
IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 546 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION: TELEPHONE: 919-541-8587
                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 520 STREET: Tarrytown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               438 ATCTAGTGGCGGTCTCGCTGTAGCTTCCTCTGCGTAGTAATACA--CCTCGCTCTGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      556 GACTACCCGCTGAACTTAA 574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 292 gaatacccgctgaacttaa 310
                                                        NAME/KEY: misc_feature LOCATION: 31..180
OTHER INFORMATION: /not
                                                                                                                                                                                                                              CLONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: U
                     NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: No. 5814453artis Corporation STREET: 520 White Plains Road
                                                                                                                                                                                                                                                                                                                                                                                                                : 546 base pairs
nucleic acid
                                                                                                                                                                                                                          pCRFpoaeT427(1-2), pCRFpoaeT534(2-2), and pCRFpoaeT756(3-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         USA
misc_ feature 181..337
                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                               single
                                                       /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US/08/887,480
                                                                                                                                                                                                                                                                                                T-427, T-534, and T-756 (consensus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGC 1739/PCT/CIP
```

```
á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-887-480-96
                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-905-314A-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 262
                                                                                                                                                                                                                                                                                                                                            Sequence 22, Application US/08905314A
Patent No. 5827695
GENERAL INFORMATION:
APPLICANT: Beck, James J.
TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL F
TITLE OF INVENTION: USING THE POLYMERASE CHAIN
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Me199, J. Timothy
REGISTRATION NUMBER: 38,241
REFERENCE/DOCKET NUMBER: CGC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (919) 541-8587
                                                                                                                              COUNTRY: USA
ZIP: 20779-2257
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTMARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION: FEATURE:
                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES: 24

CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 5827655artis Corporation
STREET: 3054 Cornwallis Road
CITY: Research Triangle Park
STATE: NC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc_feature LOCATION: 338..489 OTHER INFORMATION: /not FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: misc_ feature
LOCATION: 490..546
OTHER INFORMATION: /note= "5'
OTHER INFORMATION: rRNA gene"
                                                                                                     APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ctgaacttaa 310
|||||||||
7 CTGAACTTAA 526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C---AGCTTGGTGTTGGG------ATCTGTGTGCAAACACAGTCCCCAAATTGATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cccgggttttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCGGTCACG-TCGAGCTTCCATAGCGTAGTAATTTACACATCGTTACTGGTAATCGTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gcggtctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactggtacgcgggcgc 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note-
                                                                                                                     US/08/905,314A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                CGC 1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 187.6; DB 1;
Pred. No. 5.8e-52;
0; Mismatches 34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     *5.8S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  end of large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rRNA gene"
                                                                                                                                                                                                                                                                                                  Patent Department
                                                                                                                                                                                                                                                                                                                                               N REACTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            546;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4;
```

```
; FEATURE:
; NAME/KP: misc_feature
; LOCATION: 490..546
; OTHER INFORMATION: /note="5';
OTHER INFORMATION: rRNA gene"
US-08-905-314A-22
                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 262; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (919) 541-8689
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
NAME/KEY: misc_feature
LOCATION: 1..30
OTHER INFORMATION: /note
OTHER INFORMATION: rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INDIVIDUAL ISOLATE: T-427, T-
INDIVIDUAL ISOLATE: sequence)
IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
                                                 458
                                                                                                                           181
                                                                                                                                                                             121
                                                                                                                                                                                                   CLONE:
 517
                       301
                                                                        241
                                                                                                   399
                                                                                                                                                    351 C---AGCTTGGTGTTGGG-----ATCTGTGTGCAAACACAGTCCCCAAATTGATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS: Sir
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: misc_feature LOCATION: 338..489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOCATION:
1 ctgaacttaa 310
|||||||||
| CTGAACTTAA 526
                                               ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                              geggtetegetgeagetteceattgegtagtagtaaaaccetegeaactggtacgeggege
                                                                                                                                                                 GCGGTCACG-TCGAGCTTCCATAGCGTAGTAATTTACACATCGTTACTGGTAATCGTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pCRFpoaeT427(1-2), pCRFpoaeT534(2-2),
pCRFpoaeT756(3-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          546 base pairs ucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fusarium poae
                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_ feature
181..337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature 31..180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               single
                                                                                                                                                                                                                                                                                                                  60.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "3'
rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                               /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22:
                                                                                                                                                                                                                                                                                                       Score 187.6; DB 1;
Pred. No. 5.8e-52;
0; Mismatches 34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    T-534, and
                                                                                                                                                                                                                                                                                                                                                                                               end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of,
                                                                                                                                                                                                                                                                                                                                                                                               of large
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  small subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    T-756 (consensus
                                                                                                                                                                                                                                                                                                                                 Length 546;
                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                         14;
                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                              120
                                                                          300
                                                                                                   457
                                                                                                                           240
                                                                                                                                                     398
                                                                                                                                                                                                       350
```

4

US-08-887-480-82 ; Sequence 82, Application US/08887480 ; Patent No. 5814453

밁 Ş 밁 ģ 밁 Ş 밁 Ş 밁 Ş

```
; NAME/KEY: misc_ feature ; LOCATION: 473..504 ; OTHER INFORMATION: /note ; OTHER INFORMATION: rRNA US-08-887-480-82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:

FILING DATE:

CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/722,187

FILING DATE: 15-OCT-1996

ATTORNEY/AGENT INFORMATION:

NAME: Meigs, J. Timothy

REGISTRATION NUMBER: 38,241

REFERENCE/DOCKET NUMBER: CGC 1739/PCT/CIP

TELECOMMUNICATION INFORMATION:

TELEPHONE: 919-541-8587

INFORMATION FOR SEQ ID NO: 82:
                   Ş
                                             Query Match
Best Local Similarity
Matches 252; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: Detection of rungar rand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE:
                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                      NAME/KEY: misc_feature LOCATION: 319..472
OTHER INFORMATION: /no:
                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: misc_feature LOCATION: 1..12
OTHER INFORMATION: /note OTHER INFORMATION: rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Fusarium culmorum INDIVIDUAL ISOLATE: R-5106, R-5126, and R-5146 INDIVIDUAL ISOLATE: (consensus sequence)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET:
                                                                                                                                                                                                                                                                                                         OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                         NAME/KEY: misc_ feature LOCATION: 162..318
                                                                                                                                                                                                                                                                                                                                                                          OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc_feature LOCATION: 13..161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH:
1 aaatgogataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tarrytown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ΥN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E: No. 5814453artis Corporation 520 White Plains Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Beck, James
                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               single
                                                                    60.2%;
                                                                                                                                                   /note= "5' end of large subunit
rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "3' rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Detection of Fungal Pathogens Using
                                                                                                                                                                                                                                                                                                                                                                        /note-
                                                                                                                                                                                                                                                                                                         /note-
                                                                                                                                                                                                                                        /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US/08/887,480
                                                 Score 186.6; DB 1;
Pred. No. 1.2e-51;
1; Mismatches 40;
                                                                                                                                                                                                                                          "ITS 2"
                                                                                                                                                                                                                                                                                                           5.
                                                                                                                                                                                                                                                                                                                                                                            STI.
                                                                                                                                                                                                                                                                                                         8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                             end of small subunit
                                                                                      Length
                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the
                                                                                         504;
                                                        12;
                                                        Gaps
                                                        ω
••
```

```
RESULT 10
US-08-905-314A-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 19,
                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION UNMBER: 38,241
REFERENCE/DOCKET NUMBER: CGC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (919) 541-887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                    TELEFAX: (919) 541-86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS TITLE OF INVENTION: USING THE POLYMERASE CHAIN REACTION
                                                                                                                                                                MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Beck, James J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        500 CTGAA 504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STATE: N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: misc_ feature LOCATION: 1..12 OTHER INFORMATION: /note OTHER INFORMATION: rRNA
                                                                                                                 ORGANISM: Fusarium culmorum
INDIVIDUAL ISOLATE: R-5106, R-5126, and R-5146
INDIVIDUAL ISOLATE: (consensus sequence)
                                                                                                                                                                                                             LENGTH: 504 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: Research Triangle Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
   NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                                    TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcggcgc 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ctgaa 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGGTCACGTCGRAGCTTCCATAGCGTAGTAATTTACATATCGTTACTGGTAATCGTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C---AGCTTGGTGTTGGG------AGCTGCAGTCCTGCTGCACTCCCCAAATACATTG 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5827695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20779-2257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Application US/08905314A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E: No. 5827695artis Corporation Patent Department
3054 Cornwallis Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        USA
misc_feature
                                                                                                                                                                                                  linear
                                                                                                                                                                                   DNA (genomic)
                                                                                                                                                                                                                                                                                                  541-8689
                             /note= "3' end of small subunit
rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                    US/08/905,314A
                                                                                                                                                                                                                                                                                      19:
                                                                                                                                                                                                                                                                                                                                                    CGC 1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         271
```

```
US-08-7/2 ...

Sequence 82, Application:
Sequence 82, Application:
GENERAL INFORMATION:
APPLICANT: Ligon, James M
APPLICANT: Beck, James J
ITILE OF INVENTION: Detection of Fungal Pathogens Using TITLE OF INVENTION: Polymerase Chain Reaction NUMBER OF SEQUENCES: 86
CORRESPONDENCE ADDRESS:
ADDRESSE: Ciba-Geigy Corporation STREET: 7 Skyline Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; NAME/KEY: misc_ feature
; LOCATION: 473..504
; OTHER INFORMATION: /note= "5';
OTHER INFORMATION: rRNA gene"
US-08-905-314A-19
                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 252;
                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IF Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                     500
                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                             441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc_feature LOCATION: 319.472 OTHER INFORMATION: /not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCATION: 13..161
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: misc_feature LOCATION: 162..318
                                                                                                                           COUNTRY: U
ZIP: 10532
CLASSIFICATION:
             FILING DATE:
                         APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg 180
                                                                                                                                                                                                                                                                                                                                                                                                     CTGAA 504
                                                                                                                                                                                                                                                                                                                                                                                                                              ctgaa 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCGGTCACGTCGRAGCTTCCATAGCGTAGTAATTTACATATCGTTACTGGTAATCGTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtacgcgggcgc 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C---AGCTTGGTGTTGGG------AGCTGCAGTCCTGCTGCACTCCCCAAATACATTG 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA 271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60.2%;
82.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note- "
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note-
                           US/08/722, 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 186.6; DB 1;
Pred. No. 1.2e-51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "5.8S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ITS 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      end of large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  40; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                          Using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                504;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ω
··
```

```
; NAME/KEY: misc_feature
; LOCATION: 1..504
; OTHER INFORMATION: /note
; OTHER INFORMATION: inter
; OTHER INFORMATION: (fcul
US-08-722-187-82
                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                            RESULT 12
PCT-US95-04712-82
                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                            ; Sequence 82, Application PC/TUS9504712
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 60.2%;
Best Local Similarity 82.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: 919-541-8689 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 04-APR-1994
ATTORNEY/AGENT INFORMATION:
NAME: Walsh, Andrea C.
REGISTRATION NUMBER: 34,988
REFERENCE/DOCKET NUMBER: CGC
TELECOMMUNICATION INFORMATION:
TELEPHONE: 919-541-8666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
COMPUTER READABLE FORM
                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                           TITLE OF INVENTION: Detection of Fungal Pathogens Using the TITLE OF INVENTION: Polymerase Chain Reaction NUMBER OF SEQUENCES: 86
                                                                                                                                                                             APPLICANT: Ligon, James M
APPLICANT: Beck, James J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE:
HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           212
                                            STREET: 7 Skylin
CITY: Hawthorne
STATE: NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            332
                                                                                                                                                                                                                                                                                                            500 CTGAA 504
                                                                                                                                                                                                                                                                                                                                                                               441
                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                            381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE: 919-541-8689
                                                                                                                                                                                                                                                                                                                                            301 ctgaa 305
                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 504 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                              ADDRESSEE: Ciba-Geigy Corporation STREET: 7 Skyline Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cccgggtttggtgttggggatcggcaagcccttgcggcaagccggacccgaaatctagtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGGTCACGTCGRAGCTTCCATAGCGTAGTAATTTACATATCGTTACTGGTAATCGTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                          gcggtctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactggtacgcggcgc 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C---AGCTTGGTGTTGGG------AGCTGCAGTCCTGCTGCACTCCCCAAATACATTG 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         252;
                                                                                                                                                                                                                                                                                                                                                                             GGCYACGCCGTTAAA-CCCCAACTTCTGAATGTTGACCTCGGATCAGGTAGGAATACCCG
                  10532
                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (fculm.con)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US 08/233,608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "DNA sequence for the
internal transcribed spacer region of Fusarium culmorum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 186.6; DB 2;
Pred. No. 1.2e-51;
1; Mismatches 40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGC 1739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                              : 440
```

w --

```
** ** ** ** ** **
                                                                                                                                                                                           Ş
                                                                                                                                                                                                                            당
                                                                                                                                                                                                                                                    ô
                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                       US-08-986-727-4
                                                                                                                    RESULT
                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ş
            Sequence 4, Application US/08986727
Patent No. 6080543
GENERAL INFORMATION:
APPLICANT: ENGEL, Stacia R.
APPLICANT: DESCENZO, Richard A.
APPLICANT: IRELAN, Nancy A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: 919-541-8666
TELEPAX: 919-541-8689
INFORMATION FOR SEQ ID NO: 82:
SEQUENCE CHARACTERISTICS:
APPLICANT: DESCENZO, Richard A. APPLICANT: IRELAN, Nancy A. TITLE OF INVENTION: DETECTION C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REGISTRATION NUMBER: 34,988
REFERENCE/DOCKET NUMBER: CG
TELECOMMUNICATION INFORMATION:
TELEPHONE: 919-541-8666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US 08 FILING DATE: 04-APR-1994 ATTORNEY/AGENT INFORMATION: NAME: Walsh, Andrea C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn Release #1.0, Version CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: misc_feature
LOCATION: 1..504
OTHER INFORMATION: /note
OTHER INFORMATION: inter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE:
                                                                                                                                                                                              301
                                                                                                                                                                                                                            441
                                                                                                                                                                                                                                                                                     381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HYPOTHETICAL: NO
                                                                                                                                                                  500
                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                  332
                                                                                                                                                                                                                                                                                                                                                               121 cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                            272
                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                         61 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Walsh, Andrea C REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE:
COMPUTER: I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH:
                                                                                                                                                               11111
CTGAA 504
                                                                                                                                                                                              ctgaa 305
                                                                                                                                                                                                                                          ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                    gcggtctcgctgcagcttccattgcgtagtagtagaaaccctcgcaactggtacgcggcgc
                                                                                                                                                                                                                                                                                     GCGGTCACGTCGRAGCTTCCATAGCGTAGTAATTTACATATCGTTACTGGTAATCGTCGC
                                                                                                                                                                                                                            GGCYACGCCGTTAAA-CCCCAACTTCTGAATGTTGACCTCGGATCAGGTAGGAATACCCG
                                                                                                                                                                                                                                                                                                                                               C---AGCTTGGTGTTGGG-----AGCTGCAGTCCTGCTGCACTCCCCAAATACATTG
                                                                                                                                                                                                                                                                                                                                                                                                           TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60.2%;
82.6%;
 DETECTION OF FUNGAL PATHOGENS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "DNA sequence for the
internal transcribed spacer region of Fusarium
(fculm.con)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PCT/US95/04712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08/233,608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 186.6; DB 5;
Pred. No. 1.2e-51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             504;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                     440
                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                               380
                                                                                                                                                                                                                                                                                                                                                                                                           331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       culmorum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <u>س</u>
--
```

```
RESULT 14
US-08-887-480-84
                                                                                                                                                                                                В
                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; MOLECULE TYPE: US-08-986-727-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REGISTRATION NUMBER: 37,027
REFERENCE/DOCKET NUMBER: 0097
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 836-6620
TELEPAX: (703) 836-2021
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                  Sequence 84, Application US/08887480 Patent No. 5814453
GENERAL INFORMATION:
APPLICANT: Beck, James J
TITLE OF INVENTION: Detection of Fungal Pathogens Using the
TITLE OF INVENTION: Polymerase Chain Reaction
NUMBER OF SEQUENCES: 96
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 260;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/986,727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION: NAME: Ekstrom, Richard C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: BURNS,
STREET: P.O. Box 1
CITY: Alexandria
STATE: Virginia
                                                                                                                                                                                                                                                                                                                    460
                                                                                                                                                                                            578
                                                                                                                                                                                                                                                        518
                                                                                                                                                                                                                                                                                       239
                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                401
                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                           343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    298 ccgctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 y Match 59.7%;
Local Similarity 83.1%;
hes 260; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: FILING DATE: 08-DECCLASSIFICATION: 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OPERATING SYSTEM:
                                                                                                                                                                                                                                                     cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg 180
                                                                                                                                                                                           CCGCTGAACTTAA 590
                                                                                                                                                                                                                                                                                                                 GCGAGCTCGC--CAGGACCCCGAGCGCAGTAGTTAAACCCTCGCTCCGGGAGGCCCTGGC
                                                                                                                                                                                                                                                                                                                                 gcggtctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactg--gtacgcggc 238
                                                                                                                                                                                                                                                                                                                                                                            -CCTGGCTTGGTGATGGGGCACTGCTCCCCCCCCGGGGAGCAGGCCCTGAAATCCAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGCGCCCTCTGGTATTCCGGAGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RY: United States 22313-1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ekstrom, Richard C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P.O. Box 1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E: Floppy disk
IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BURNS, DOANE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  08-DEC-1997
)N: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 185; DB 3; Pred. No. 4.3e-51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     009773-012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SWECKER & MATHIS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   45; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 611;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                       577
                                                                                                                                                                                                                                                                                    297
                                                                                                                                                                                                                                                                                                                  517
                                                                                                                                                                                                                                                                                                                                                                              459
                                                                                                                                                                                                                                                                                                                                                                                                                                          400
```

۵.

```
ş
밁
                                                           В
                                                                                       Ş
                                                                                                                                                                                                         US-08-887-480-84
                                                                                                                                                        Query Match
                                                                                                                         Matches 259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE: 919-541-85
TELEFAX: 919-541-8689
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 545 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELECOMMUNICATION INFORMATION: TELEPHONE: 919-541-8587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MMEDIATE SOURCE:
289
                                                            229
                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY:
             61 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                   LOCATION: 489..545
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KRY: misc_ feature
LOCATION: 1.30
OTHER INFORMATION: /note= "3'
OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: CG
                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                  NAME/KEY: misc_
LOCATION: 489..5
                                                                                                                                                                                                                                                                                                    OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                 NAME/KEY: misc_feature LOCATION: 336..488
                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: misc_ feature LOCATION: 179..335
                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLONE: pCRFMON1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Fusarium moniliforme INDIVIDUAL ISOLATE: 4551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 08/722,187 FILING DATE: 15-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: No. 5814453artis Co
STREET: 520 White Plains Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
                                                                           l aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcggaatcttttgaacgcaca 60
                                                           ANATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tarrytown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ŋ
                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
31..178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5814453artis Corporation
                                                                                                                                                                                                                                                      545
                                                                                                                                                                                                                                                                feature
                                                                                                                                         59.1%;
83.5%;
                                                                                                                                                                                                                                                                                                                                                               /note=
                                                                                                                                                                                                                   /note= "5'
rRNA gene"
                                                                                                                                                                                                                                                                                                    /note-
                                                                                                                                                                                                                                                                                                                                                                                                                             /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US/08/887,480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               84:
                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGC 1739/PCT/CIP
                                                                                                                                        Score 183.2; DB 1
Pred. No. 1.6e-50;
                                                                                                                                                                                                                                                                                                                                                                                                                               "ITS
                                                                                                                                                                                                                                                                                                    "ITS
                                                                                                                                                                                                                                                                                                                                                                "5.8S rRNA gene"
                                                                                                                         Mismatches
                                                                                                                                                                                                                                    end of large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          end of small subunit
                                                                                                                                                       DB 1;
                                                                                                                         38;
                                                                                                                         Indels
                                                                                                                                                     Length 545;
                                                                                                                         13;
                                                                                                                       Gaps
                                                                                                                         4.
```

```
US-08-905-314A-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                               TELEFAX: (919) 541-868:
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 545 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 58276
                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION: TELEPHONE: (919) 541-8587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn Rel CURRENT APPLICATION DATA:
                  FEATURE:
                                                                                    FEATURE:
                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                  MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS TITLE OF INVENTION: USING THE POLYMERASE CHAIN REACTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                     IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  516 CTGAACTTAA 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181 gcggtctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactggtacgcgcgc 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                LOCATION: 31..178 OTHER INFORMATION:
                                                 NAME/KEY: misc_feature LOCATION: 31..178
                                                                                                OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                  NAME/KEY: misc_feature LOCATION: 1..30
                                                                                                                                                                                                                 ORGANISM: Fusarium moniliforme INDIVIDUAL ISOLATE: 4551
                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
FILING DATE:
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
NAME/KEY: misc_ feature
                                                                                                                                                                                  CLONE:
                                                                                                                                                                                                                                                                                                  STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                     TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE: NO. 304/VIII Road STREET: 3054 Cornwallis Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cccgggtttggtgttggggatcggcaagcccttgcggcaagccggcccgaaatctagtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGGTCACG-TCGAGCTTCCATAGCGTAGTAATTTACACATCGTTACTGGTAATCGTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C---AGCTTGGTGTTGGG-----AGCTGCAGTCCTGCTGCACTCCCCAAATACATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Research Triangle Park
                                                                                                                                                                                                                                                                                                                  nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20779-2257
                                                                                                                                                                                    pcrfmon1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Application US/08905314A
                                                                                                                                                                                                                                                                                                                                                                                   (919) 541-8689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Beck,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                                                                                                                 DNA (genomic)
                                                                                                                                                                                                                                                                                                single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5827695artis Corporation Patent Department
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   James J
                                                                                              /note= "3' rRNA gene"
                                  /note- "ITS 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US/08/905,314A
                                                                                                                                                                                                                                                                                                                                                                                                                                                    38,241
                                                                                                                                                                                                                                                                                                                                                                                                                                       CGC
                                                                                                                                                                                                                                                                                                                                                                                                                                       1944
                                                                                                                 end of small subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 397
```

```
COCATION: 179..335

OTHER INFORMATION: /note= "5.8S rRNA gene"

FEATURE:

NAME/KEY: misc_feature

LOCATION: 336..488

OTHER INFORMATION: /note= "ITS 2"

FEATURE:

NAME/KEY: misc_feature

LOCATION: 489..545

OTHER INFORMATION: /note= "5' end of large subunit

OTHER INFORMATION: rRNA gene"

US-08-905-314A-21
                                                                                   ð
                                                                                                                                 Qy
Search completed: August 21, 2002, 22:12:26 Job time: 5699 sec
                                                                                                             Ь
                                                                                                                                                           밁
                                                                                                                                                                                   Ş
                                                                                                                                                                                                               рь
                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                         ş
                                                                                                                                                                                                                                                                                                                                                                     Ouery Match 59.1%; Score 183.2; DB 1; Length 545; Best Local Similarity 83.5%; Pred. No. 1.6e-50; Matches 259; Conservative 0; Mismatches 38; Indels 13
                                                            121 cccgggtttggtgttggggatcggcaagcccttgcggcaagccgggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                  301 ctgaacttaa 310
                                                                                                                                                             398 GCGGTCACG-TCGAGCTTCCATAGCGTAGTAATTTACACATCGTTACTGGTAATCGTCGC 456
                                                                                                                                                                            181 gcggtctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactggtacgcgcgc 240
                                                                                                                                                                                                                                                                 13;
                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                 397
                                                                                                                                                                                                                                                                                                                                                                      4.
```

```
us-10-046-955-50.
```

```
Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pending_Patents_NA_Main:*
l: /cgn2_6/ptodata/1/pna/PCTUS_COMB.seq:*
2: /cgn2_6/ptodata/1/pna/USO6_COMB.seq:*
           "Cgn2_6/ptodata/1/pna/US07_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US081_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US081_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US082_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US082_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US083_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US086_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US086_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US086_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US089_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US089_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US099_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US099_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US099_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US099_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US099_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US099_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US099A_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US099A_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US095A_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US095A_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US095A_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US096A_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US096C_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US096C_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US099B_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US090B_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US090B_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US090B_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US090B_COMB.seq: *
(Cgn2_6/ptodata/1/pna/US090B_COMB.seq: *
(Cgn2_6/ptodat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21979536 seqs, 10817449327 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-046-955-50
18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            August 22, 2002, 00:39:32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GenCore version 4.5
Copyright (c) 1993 - 2000 Com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cgttaattcgcgttcctc 18
/ptodata/1/pna/US6004_COMB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Search time 8184.59 Seconds (without alignments) 47.581 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     43959072
```

```
/cgn2_6/ptodata/1/pna/US6036_COMB.seq:
```

Pred. No. is the score greater that and is derived is the number of results predicted by chance to have a ster than or equal to the score of the result being printed, rived by analysis of the total score distribution.

SUMMARIES

Result No.	Score		Length	DB BD		Description
21	18 18	100.0	18 382	18 16	US-09-423-233-50 US-09-241-427-3	Sequence 50
ω			620	22	-09-580-797-	
4	15.4	85.6	N	35	-09-954-427-16647	Sequence 166475,
ı (J	15.4		25	62	-60-233-166-1664	
0	15.4		6936	55	-60-161-932-21	
7	15.4		6938	19	-09-528-237A	
	15.4		26474	55	-60-161-932-109	
o 9	15.4		26475	19	-09-528-237A-1	
c 10	15.4		36240	24	-09-620-392-5	Sequence 58840
11	15.4		41444	24	-09-620-392-	
12	15.4		41444	28	-09-702-134-2	
13	15.4		41466	31	-09-815-264-6	
	15		128	_	PCT-US02-03987-996	ശ
	15		128	31	ģ	Sequence 99
C 16	15		126	37	us-10-072-851-996	Sequence 996,
•	15		250	ب	ដ	Sequence 555
	15		250	<u>3</u>	2-5	Sequence 55
	15		250	37	851-5	Sequence 55
	15		250	65	-60-269-308-3	Sequence 34
21	15		266	16	-09-244-000A-52	Sequence 52
22	15		266	36	-09-978-703-52489	Sequence 52489
23	15		615	15	US-09-134-000-314	
2 4	15		9212	14	-09-070-927-	
) N	٠,		9212	4	US-09-070-927A-334	
20			47	18	US-09-404-520-39707	
			207	15		
C 28	14.8		207	15	-09-107-532A	Sequence 1902
			259	22	S	
	14.8		262	20	-09-535-459	
31	14.8	S	دد	,		

```
; LENGTH: 18
; TYPE: DNA
; ORGANISM: Fusarium oxysporum
US-09-423-233-50
                                                                                                                                                                                                                                                                                                                          RESULT 2
US-09-241-427-3
                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-423-233-50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 50, Application US/09423233

GENERAL INFORMATION:
APPLICANT: The Government of the United States of America as
TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species
TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 03063-0341Wp
CURRENT APPLICATION NUMBER: US/09/423,233
CURRENT FILING DATE: 2000-06-27
NUMBER OF SEQ ID NOS: 61
SOFTWARE: Patentin Ver: 2.0
SEQ ID NO 50
SEQ ID NO 50
                                                                                                                                                                                                                              Sequence 3, Application US/09241427
GENERAL INFORMATION:
APPLICANT: Yechezkel Kashi et al.
TITLE OF INVENTION: NUCLEIC ACID-BASED ASSAY AND KIT FOR THE
TITLE OF INVENTION: DETECTION OF ALTERNARIA CONTAMINATION IN
TITLE OF INVENTION: FOOD PRODUCTS
NUMBER OF SEQUENCES: 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: 1.44 megabyte, 3.5" micro
COMPUTER: Twinhead* Slimnote-890TX
OPERATING SYSTEM: MS DOS version 6.2,
OPERATING SYSTEM: Windows version 3.11
                        SOFTWARE: Word for Windows version 2.0 SOFTWARE: an ASCI file CURRENT APPLICATION DATA:
                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
                                                                                                                                                            STREET: 2001 Jes
CITY: Arlington
STATE: Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%;
Local Similarity 100.0%;
hes 18; Conservation
APPLICATION NUMBER: US/09/241,427 FILING DATE:
                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                    ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                             1 cgttaattcgcgttcctc 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14.8
114.8
114.8
114.8
114.8
114.8
114.8
114.8
                                                                                                                                                                                                                                                                                                                                                                                 cgttaattcgcgttcctc 18
                                                                                                                                                                                    E: Mark M. Friedman c/o Anthony Castorina
2001 Jefferson Davis Highway, Suite 207
                                                                                                                                                 United States of America
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          E: 1.44 megabyte, 3.5" microdisk
Twinhead* Slimnote-890TX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          438
438
438
438
460
460
461
481
481
481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7 US-09-684-016-148514
US-09-440-687-17246
US-09-464-617-69363
US-09-684-016-69363
US-09-270-8498-32774
US-09-270-8498-32774
US-09-270-8498-3257
US-09-270-8498-53297
US-09-371-1468-228553
US-09-371-1468-228553
US-09-385-68-228553
US-09-385-68-228553
US-09-385-68-228553
US-09-385-68-228553
US-09-385-68-228553
US-09-385-68-228553
US-09-385-68-228553
                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PCT-US00-32639-103
                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 18; DB Pred. No. 26; O; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 18;
                                                    converted
                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 148514,
Sequence 17246, A
Sequence 69363, A
Sequence 69363, A
Sequence 1320, Ap
Sequence 32774, A
Sequence 35481, A
Sequence 53297, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 228553,
Sequence 228553,
Sequence 228553,
Sequence 7043, Ap
Sequence 17444, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 103, App
                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

```
US-09-954-427-166475
Sequence 166475, Application US/09954427
GENERAL INFORMATION:
APPLICANT: Mittmann
APPLICANT: Mittmann
APPLICANT: Mittmann
APPLICANT: Mittmann
APPLICANT: Mittmann
APPLICANT: Mittmann
APPLICANT: Methods of Genetic Analysis of the
TITLE OF INVENTION: Genome
FILE OF INVENTION: Genome
FILE REFERENCE: 3112
CURRENT APPLICATION NUMBER: US/09/954,427
CURRENT FILING DATE: 2001-09-17
NUMBER OF SEQ ID NOS: 420907
                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; ORGANISM: Fusarium oxysporum US-09-580-797-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-580-797-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-241-427-3
                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: FastSEQ for Windows Version 3.0 SEQ ID NO 11 LENGTH: 620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 11, Applica GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 100.0%;
Best Local Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Iwen, Peter C.
APPLICANT: Hinrichs, Steven H.
APPLICANT: Henry, Travis
APPLICANT: Board of Regents of the University of Nebraska
TITLE OF INVENTION: Materials and Methods for Molecular
TITLE OF INVENTION: Detection of Clinically Relevant Pathogenic Fungal Species
FILE REFERENCE: UNMC 63149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/09/580,797
CURRENT FILING DATE: 2000-05-30
NUMBER OF SEQ ID NOS: 39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: 972-3-5625553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION
                                                                                                                                                                                                                                                                           478 cgttaattcgcgttcccc 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      287 CGTTAATTCGCGTTCCTC 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: nucleic acid
STRANDEDNESS: doub
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 972-3-5625554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Friedmam, Mark M. REGISTRATION NUMBER: 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
                                                                                                                                                                                                                                                                                                1 cgttaattcgcgttcctc 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 cgttmattcgcgttcctc 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Application US/09580797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            382
                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     double
                                                                                                                                                                                                                                                                                                                                                                         91.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              33,883
                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                     Score 16.4; DB 22;
Pred. No. 2e+02;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              74/57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 18;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16; Length 382;
                                                                                                                                                                                                                                                                                                                                                                                           Length 620;
                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

```
Sequence 210, Application US/60161932

GENERAL INFORMATION:
APPLICANT: Venter, J. Craig
TITLE OF INVENTION: Acid Sequences, Systems Containin the Nucleic
TITLE OF INVENTION: Acid Sequences, Systems Containin the Nucl
TITLE OF INVENTION: and Uses Thereof
FILE REFERENCE: CL000122
CURRENT APPLICATION NUMBER: US/60/161,932
CURRENT APPLICATION WIMBER: US/60/161,932
CURRENT FILING DATE: 1999-10-28
NUMBER OF SEQ ID NOS: 2626
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 210
LENGTH: 6936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: Rattus norvegicus | PUBLICATION INFORMATION: DATABASE ACCESSION NUMBER: GenBank AA925863 US-09-954-427-166475
                                                                                 ; ORGANISM: Drosophila
US-60-161-932-210
                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; TYPE: DNA
ORGANISM: Rattus norvegicus
PUBLICATION INFORMATION:
DATABASE ACCESSION NUMBER: GenBank AA925863
US-60-233-166-166475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-60-233-166-166475; Sequence 166475, Application US/60233166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                     us-60-161-932-210/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION NUMBER: US/60/233,166
CURRENT FILING DATE: 2000-10-24
NUMBER OF SEO ID NOS: 420907
SOFTWARE: FastSEQ for Windows Version 4.0
SEO ID NO 166475
LENGTH: 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: FASTSEQ
SEQ ID NO 166475
LENGTH: 25
Query Match
Best Local Similarity
Matches 16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: Mittmann
APPLICANT: Affymetrix, Inc.
TITLE OF INVENTION: Methods of Genetic Analysis of the Rat
TITLE OF INVENTION: Genome
FILE REFERENCE: 3112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity
Matches 16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                  TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity 94.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Windows Version 4.0
               85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       94.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 15.4; DB 35
Pred. No. 6.8e+02;
               Score 15.4; DB 55
Pred. No. 6.9e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 15.4; DB 62
Pred. No. 6.8e+02;
Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 35;
                                 DB 55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                     the Nucleic
                                    6936;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25;
 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                   Acid Sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
 0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
```

```
US-60-161-932-109/c

Sequence 109, Application US/60161932

GENERAL INFORMATION:

APPLICANT: Venter, J. Craig

TITLE OF INVENTION: Acid Sequences, Primary Nucleic

TITLE OF INVENTION: Acid Sequences, Systems Containin the Nucl

TITLE OF INVENTION: and Uses Thereof

FILE REFERENCE: CL000122

CURRENT APPLICATION NUMBER: US/60/161,932

CURRENT FILING DATE: 1999-10-28

NUMBER OF SEO ID NOS: 2626

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 109

LENGTH: 26474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT FILING DATE: 2000-03-17

NUMBER OF SEQ ID NOS: 2926

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 186

LENGTH: 6938

Type: ""
US-09-528-237A-1558/c
US-09-528-237A-1558/c
Sequence 1558, Application US/09528237A
Sequence 1558, Application US/09528237A
GENERAL IMFORMATION:
APPLICANT: Venter, J. Craig
TITLE OF INVENTION: The Drosophila Genome, Primary Nucleic
TITLE OF INVENTION: Acid Sequences, Systems Containing The Nucleic Acid
TITLE OF INVENTION: Sequences and Uses Thereof
FILE REFERENCE: CL000284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 7
US-09-528-237A-186
; Sequence 186, Application US/09528237A
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                             ; ORGANISM: Drosophila US-60-161-932-109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; TYPE: DNA
; ORGANISM: Drosophila
US-09-528-237A-186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                           Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
                                                                                                                                                                                                                                                            1502 CGTTAATTCGCTTTCCT 1486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               954 cgttcattcgcgttcct 970
                                                                                                                                                                                                                                                                                                                                             Local Similarity
nes 16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 cgttaattcgcgttcct 17
                                                                                                                                                                                                                                                                                                      1 cgttaattcgcgttcct 17
                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cgttaattcgcgttcct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Venter, J. Craig
                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The Drosophila Genome, Primary Nucleic Acid Sequences, Systems Containing The Sequences and Uses Thereof
                                                                                                                                                                                                                                                                                                                                                              85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                              Score 15.4; DB 55; Pred. No. 7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 15.4; DB 19
Pred. No. 6.9e+02;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Systems Containin the Nucleic Acid Sequences
                                                                                                                                                                                                                                                                                                                                                                               Length 26474;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 6938;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nucleic Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                           0
```

```
Plant Genome Sequence And Sequence And Sequence And CURRENT APPLICATION NUMBER: US/09/620,392
CURRENT FILING DATE: 2000-07-19
NUMBER OF SEQ ID NOS: 69652
SEQ ID NO 58840
LENGTH: 36240
TYPE: DNA
ORGANTS:
                                                                                                                                                                                                       Sequence 61180, Application US/09620392
GENERAL INFORMATION:
BOUKharov, Andrey A.
APPLICANT: Kovalic, David K.
APPLICANT: Liu, Jingdong
APPLICANT: HCININCH, James
TITLE OF INVENTION:
FILE REFERENCE: 38-21(51237)E
                                                                               ; TYPE: DNA
; ORGANISM: Oryza sativa
US-09-620-392-61180
                                                                                                                                                                                                                                                                                                                                                                                                      Plant Genome Sequence And Uses Thereof CURRENT APPLICATION NUMBER: US/09/620,392
CURRENT FILING DATE: 2000-07-19
NUMBER OF SEQ ID NOS: 69652
SEQ ID NO 61180
LENGTH: 2.1.
                                                                                                                                                                                                                                                                                                                                      RESULT 11
US-09-620-392-61180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; ORGANISM: Oryza sativa
US-09-620-392-58840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           : SOFTWARE: FastSEQ for Windows Version 4.0
: SEQ ID NO 1558
: LENGTH: 26475
: TYPE: DNA
: ORGANISM: Drosophila
US-09-528-237A-1558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-620-392-58840/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Bouk
APPLICANT: Kovalic,
APPLICANT: Liu, Jing
APPLICANT: MCININCh,
TITLE OF INVENTION:
 Query Match
Best Local Similarity
Matches 16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 85.6%;
Best Local Similarity 94.1%;
Matches 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 58840, Application US/09620392 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 94.1 Matches 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/528,237A CURRENT FILING DATE: 2000-03-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1503 CGTTAATTCGCTTTCCT 1487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 cgttaattcgcgttcct 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kovalic, David K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Liu, Jingdong
   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Boukharov,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            85.6%;
94.1%;
                85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Andrey A.
 ,,
               Score 15.4; DB 24; Pred. No. 7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 15.4; DB 24;
Pred. No. 7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 15.4; DB 19; Pred. No. 7e+02;
 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               And Uses Thereof
                                Length 41444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 36240;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 26475;
0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
```

```
TITLE OF INVENTION: Genomic Plant Sequences And FILE REFERENCE: 38-21(51237)G
CURRENT APPLICATION NUMBER: US/09/815,264
CURRENT FILING DATE: 2001-03-23
PRIOR APPLICATION NUMBER: US 09/620,392
PRIOR FILING DATE: 2000-07-19
PRIOR APPLICATION NUMBER: US 09/702,134
PRIOR APPLICATION NUMBER: US 09/702,134
PRIOR FILING DATE: 2000-10-31
NUMBER OF SEQ ID NOS: 109669
SEQ ID NO 65941
                                                                                                                                                              ; LENGTH: 41444
; TYPE: DNA
; ORGANISM: Oryza sativa
US-09-815-264-65941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Oryza sativa
US-09-702-134-26530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-815-264-65941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                          Query Match
Best Local S
Matches 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-702-134-26530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 65941, Application US/09815264
GENERAL INFORMATION:
APPLICANT: Boukharov, Andrey A.
APPLICANT: Cao, Yongwei
APPLICANT: Dotson, Stanton B.
APPLICANT: Koshi, Jeffrey M.
APPLICANT: Kovalic, David K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: Plant Genome Sequence and Uses Thereof FILE REFERENCE: 38-21(51237)F
CURRENT APPLICATION NUMBER: US/09/702,134
CURRENT FILING DATE: 2000-10-31
NUMBER OF SEQ ID NOS: 52202
SEQ ID NO 26530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 94.1 Matches 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 26530, Application US/09702134
2 gttaattcgcgttcctc 18
||||||||| ||||||||
20643 gttaattcacgttcctc 20659
                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20643 gttaattcacgttcctc 20659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 41444
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20643 gttaattcacgttcctc 20659
                                                                    Local Similarity 94.1 nes 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 gttaattcgcgttcctc 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 gttaattcgcgttcctc 18
                                                                                                                                                                                                                                                                                                                                                                                                                             McIninch, James
                                                                                                                                                                                                                                                                                                                                                                                                                                               Liu, Jingdong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wu, Wei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cao, Yongwei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kovalic, David K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        McIninch, James
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Liu, Jingdong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Boukharov, Andrey A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 85.68;
                                                                                       85.6%;
94.1%;
                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                      Score 15.4; DB 31;
Pred. No. 7e+02;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 15.4; DB Pred. No. 7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                           And Uses Thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28;
                                                                                                      Length 41444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 41444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

```
CURRENT APPLICATION NUMBER: US/09/815,242
CURRENT FILING DATE: 2001-03-21
PRIOR APPLICATION NUMBER: 60/201,078
PRIOR APPLICATION NUMBER: 60/206,848
PRIOR FILING DATE: 2000-03-23
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-10-23
PRIOR PILICATION NUMBER: 60/242,578
PRIOR FILING DATE: 2000-11-27
PRIOR PPLICATION NUMBER: 60/253,625
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR FILING DATE: 2000-11-27
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR APPLICATION NUMBER: 60/259,308
PRIOR FILING DATE: 2001-02-16
NUMBER OF SEQ ID NOS: 14110
SOFTWARE: FASTSEQ for Windows Version 4.0
SOFTWARE: FastSEQ for Windows Version 4.0
COGGANISM: Enterococcus faecalis
US-09-815-242-996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Haselbeck, Robert
APPLICANT: Ohlsen, Karl L.
APPLICANT: Oyskind, Judith W.
APPLICANT: Tyskind, Judith W.
APPLICANT: Wall, Daniel
APPLICANT: Trawick, John D.
APPLICANT: Carr, Grant J.
APPLICANT: Yamamoto, Robert T.
APPLICANT: Yu. H. Howard
TITLE OF INVENTION: Identification of Essential Genes in
TITLE OF INVENTION: Prokaryotes
FILE REFERENCE: ELITRA.011A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 14
PCT-US2-03987-996/c
; Sequence 996, Application PC/TUS0203987
; GENERAL INFORMATION:
; APPLICANT: Elitra Pharmaceuticals, Inc.
; TITLE OF INVENTION: Methods for Identifying the Target of a Compound which Inhibits
; TITLE OF INVENTION: Proliferation
; TITLE OF INVENTION: Proliferation
; TITLE REFERENCE: ELITRA,028VPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 15
US-09-815-242-996/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                : ORGANISM: Enterococcus faecalis PCT-US02-03987-996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: PCT/US02/03987
CURRENT FILING DATE: 2002-02-02
PRIOR APPLICATION NUMBER: 60/267,636
PRIOR FILING DATE: 2001-02-09
NUMBER OF SEQ ID NOS: 15811
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 996
LENGTH: 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 996, Application US/09815242 GENERAL INFORMATION:
Query Match 83.3%; Score 15; DB 31; Length 128; Best Local Similarity 100.0%; Pred. No. 1.1e+03; Matches 15; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 83.3%;
Best Local Similarity 100.0%;
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 gttaattcgcgttcc 16
||||||||||||||||
118 GTTAATTCGCGTTCC 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PCT/US02/03987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 15; DB 1; Length 128; Pred. No. 1.1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'n
        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
```

Search completed: August 22, 2002, 00:39:40 Job time: 13065 sec

```
Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                    Sequence:
                                                                                                                                                                                                                                                                                                                         Run on:
                                                                                                                                                                                                                                                                                                                                                             OM nucleic - nucleic search, using sw model
                                                            Total number of hits satisfying chosen parameters:
                                                                                                      Searched:
                                                                                                                                                          Scoring table:
                                                                                                                                                                                                                     Perfect score:
                                                                                                                                                                                                                                          Title:
                                                                                                                                                                                                                                                                                 August 22, 2002, 00:50:53; Search time 663.62 Seconds (without alignments) 72.981 Million cell updates/sec
                                                                                                    1721111 seqs, 1345317543 residues
                                                                                                                                         IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                         US-10-046-955-50
18
                                                                                                                                                                                                    1 cgttaattcgcgttcctc 18
                                                                                                                                                                                                                                                                                                                                                                                                                     GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                  3442222
```

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database

Pending_Patents_NA_New:*

1: /cgn2_6/ptodata/2/pna/PCT_NEW_COMB.seq:*

2: /cgn2_6/ptodata/2/pna/US06_NEW_COMB.seq:*

3: /cgn2_6/ptodata/2/pna/US07_NEW_COMB.seq:*

4: /cgn2_6/ptodata/2/pna/US09_NEW_COMB.seq:*

5: /cgn2_6/ptodata/2/pna/US10_NEW_COMB.seq:*

6: /cgn2_6/ptodata/2/pna/US10_NEW_COMB.seq:*

7: /cgn2_6/ptodata/2/pna/US10_NEW_COMB.seq:*

8: /cgn2_6/ptodata/2/pna/US10_NEW_COMB.seq:*

pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

0 0		00	0	00	Result No.
54222	16 17 18 19 19	. U. ≠ W. W. +		4 3 2 1	
13.8	13.88	13.8		18 14.4 14.4	Score
76.7 76.7 76.7 76.7	76.7 76.7 76.7	76.7 76.7 76.7	80.0 80.0 80.0 77.8 76.7	100.0	Query Match
9423 9704 12666	774 905 1163 1248	55555	270 651 914 2569 251	18 25 25 266	Length
77750	, v, ao o, ao -	177651	1558875	5557	BIG
US-10-158-844-137	US-60-360-039-29878 US-10-098-754-18470 US-60-360-039-30593 US-60-360-039-30593 US-90-540-2098-168	US-10-09-75-254-7020 US-10-098-754-13158 US-10-027-632-61031 US-10-027-632-309725	-09	US-10-046-955-50 US-09-956-604-95112 US-09-956-604-95113 US-09-975-254-9537	ID
Sequence 80, Appl Sequence 6, Appli Sequence 3, Appli Sequence 137, App	29878 18470 30593 168,	7020, A 13158, 13158, 61031, 309725,	21902, 266929 35000, 36500, 30190, 17320,	Sequence 50, Appl Sequence 95112, A Sequence 95113, A Sequence 9537, Ap	Description

4	c 4	4	c 4	4	4		ი ა	c 37	w	w	w	ω	ω	u	ىپ	o N		Ŋ	2
5 13.	4 13.	3 13.	2 13.	1 13.	0 13.			7 13.4				3 13.	2 13.	1 13.	0 13.	9 13.	8 13.	7 13.	6 13.
4 74.4	4 74.4	4 74.4	4 74.4	4 74.4	4 74.4			4 74.4				4 74.4	4 74.4	8 76.7	8 76.7	8 76.7	8 76.7	B 76.7	8 76.7
1196	1089	902	842	686	686	665	808	466	457	455	455	435	349	185548	185548	49795	49650	24697	13046
7	Ŋ	6	œ	Ŋ	ഗ	œ	U	S	S	5	5	ري.	u	7		σ	σ	7	7
US-10-137-337-261	US-09-540-209B-5152	US-10-198-846-8724	US-60-360-039-34823	US-09-785-276A-29125	US-09-785-276A-23251	US-60-377-240-1236	US-09-785-276A-54492	US-09-918-995-22342	US-09-785-276A-5144	US-09-785-276A-44259	US-09-785-276A-35427	US-09-785-276A-14313	US-09-721-544-17011	US-10-175-523-62	PCT-US02-19457-62	US-10-114-170-60	US-10-053-853A-410	US-10-027-632-76188	US-10-125-540-595
Sequence		Sequence	Sequence	Sequence	Sequence	Sequence			Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence		
261, App	~	8/24, AP	34823, A	29125, A	23251, A	1236, Ap		22342, A	5144, Ap	·	35427, A	14313, A	17011, A	62, Appl	62, App1	Tddv '00	٠	/0188, A	595, App

ALIGNMENTS

```
US-10-046-955-50

Sequence 50, Application US/10046955

Sequence 50, Application US/10046955

Sequence 50, Application US/10046955

Sequence 50, Application US/10046955

APPLICANT: Secretary of the Department of Health and Human Services, Centers for Applicant: Secretary of the Department of Health and Human Services, Centers for Applicant: Control and Prevention

APPLICANT: Adorevich, Liliana
APPLICANT: Aldorevich, Liliana
APPLICANT: Aldorevich, Liliana
APPLICANT: Choi, Jong Soo

APPLICANT: Choi, Jong Soo

APPLICANT: AUMER: US/10/046,955

CURRENT APPLICATION NUMBER: US/10/046,955

CURRENT FILING DATE: 1920-05-04

APPLICANTON NUMBER: US 60/045,400

PRIOR APPLICATION NUMBER: US 60/045,400

PRIOR APPLICATION NUMBER: US 60/045,400

PRIOR APPLICATION NUMBER: US 60/045,400

PRIOR FILING DATE: 1997-05-02

AUMERE OF SEQ ID NOS: 61

SEQ ID NO SO

LENGTH: 18

TYPE: DNA

CORGANISM: Fusarium oxysporum

US-10-046-955-50

Ouery Match

100-08; Score 18; DB 7; Length 18;
Best Local Similarity 100-08; Pred. No. 1.7;
Best Local Similarity 100-08; Score 18; DB 7; Length 18;
Best Local Similarity 100-08; Pred. No. 1.7;
Best Local Similarity 100-08; Score 18; DB 7; Length 18;
Best Local Similarity 100-08; Score 18; DB 7; Length 18;
Best Local Similarity 100-08; Score 18; DB 7; Length 18;
Best Local Similarity 100-09; Mismatches 0; Indels 0; Gaps 0;

OUERT MATCH 100-09; Mismatches 0; Indels 0; Gaps 0;

PRIOR APPLICATION UNBER: US/09/95604

ETHE REPERCENT 100-09; Mismatches 0; Indels 0; Gaps 0;

PRIOR APPLICATION UNBER: US/09/95604
```

```
US-09-975-254-9537; Sequence 9537, Appli; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Thes 15; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: Escherichia coli
US-09-956-604-95112
                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TYPE: DNA
; ORGANISM: Escherichia
US-09-956-604-95113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-956-604-95113/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: Methods of Genetic Analysis of Escherichia coli FILE REFERENCE: 3117.1 CURENT APPLICATION NUMBER: US/09/956,604 CURRENT FILING DATE: 2001-09-19 PRIOR APPLICATION NUMBER: 60/234,049 PRIOR FILING DATE: 2000-09-19 NUMBER OF SEQ ID NOS: 141629 SOFTWARE: Microarray Probe Sequence Listing Generator V 1.1 SEQ ID NO 95113 LENGTH: 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: Mittmann, Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS: 141629

SOFTMARE: Microarray Probe Sequence Listing Generator V 1.1
SEQ ID NO 95112

LENGTH: 25
                                                                          NUMBER OF SEQ ID NOS: 31255
SEQ ID NO 9537
LENGTH: 266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 80.0
Best Local Similarity 93.0
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 95113, Application US/09956604
                                                                                                                               APPLICANT: Byrum, Joseph R.
APPLICANT: Heck, Gregory R.
APPLICANT: La Rosa, Thomas J.
APPLICANT: La Rosa, Thomas J.
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(15309)B
CURRENT APPLICATION NUMBER: US/09/975,254
CURRENT FILING DATE: 2001-10-12
PRIOR APPLICATION NUMBER: US/09/263,191
PRIOR APPLICATION NUMBER: US/09/263,191
ORGANISM: Glycine max
OTHER INFORMATION: Clone
-09-975-254-9537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT FILING DATE: 2001-09-19
PRIOR APPLICATION NUMBER: 60/234,049
PRIOR FILING DATE: 2000-09-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                          20 TTAATTCGCGTTGCTC 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16 TTAATTCGCGTTGCTC 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 ttaattcgcgttcctc 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3 ttaattcgcgttcctc 18
                                                                                                                                                                                                                                                                                                                                                         Application US/09975254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                80.0%;
93.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80.0%;
93.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         coli
                    ID: 700756034H1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 14.4; DB 5; Pred. No. 1.8e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 14.4; DB 5. Pred. No. 1.8e+02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; TYPE: DNA
; ORGANISM: Glycine max
; OTHER INFORMATION: Clone
US-09-975-254-21902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 5
US-09-975-254-21902
US-10-027-632-266929
                                                                                                                                               FILE REFERENCE: 108827.129

CURRENT APPLICATION NUMBER: US/10/027,632

CURRENT FILING DATE: 2002-04-30

PRIOR APPLICATION NUMBER: US 60/218,006

PRIOR FILING DATE: 2000-07-12

PRIOR FILING DATE: 2000-04-20

PRIOR APPLICATION NUMBER: US 60/198,676

PRIOR FILING DATE: 2000-04-20

PRIOR APPLICATION NUMBER: US 60/193,483

PRIOR FILING DATE: 2000-03-29

PRIOR FILING DATE: 2000-03-29

PRIOR APPLICATION NUMBER: US 60/185,218

PRIOR PRIOR DATE: 1990-02-24

PRIOR FILING DATE: 1999-11-23

PRIOR APPLICATION NUMBER: US 60/156,358

PRIOR PRIOR APPLICATION NUMBER: US 60/156,358

PRIOR PRIOR APPLICATION NUMBER: US 60/146,002

PRIOR FILING DATE: 1999-09-28

PRIOR FILING DATE: 1999-09-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-027-632-266929/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 21902, Application US/U99/3234
GENERAL INFORMATION:
APPLICANT: Byrum, Joseph R.
APPLICANT: Heck, Gregory R.
APPLICANT: La Rosa, Thomas J.
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(15309)B
FILE REFERENCE: 38-21(15309)B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NÜMBER: US/09/975,254
CURRENT FILING DATE: 2001-10-12
PRIOR APPLICATION NUMBER: US/09/263,191
PRIOR FILING DATE: 1999-03-05
NUMBER OF SEQ ID NOS: 31255
SEQ ID NO 21902
LENGTH: 270
                                                               SOFTWARE: FastS
SEQ ID NO 266929
LENGTH: 651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:

APPLICANT: Wang, David G.

TITLE OF INVENTION: Identification and Mapping of Single Nucleotide
TITLE OF INVENTION: Polymorphisms in the Human Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 266929,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                   NUMBER OF SEQ ID NOS:
                   ORGANISM: Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity nes 15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 ttaattcgcgttcctc 18
|| |||||||||||||
|43 ttgattcgcgttcctc 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7 ttgattcgcgttcctc 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ttaattcgcgttcctc 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15;
                                                                                                             FastSEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Application US/10027632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        80.0%;
93.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      80.0%;
93.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ID:
                                                                                                          Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          700960259н1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 14.4;
Pred. No. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 14.4; DB 5;
Pred. No. 1.9e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; DB 5;
1.9e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 270;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 266;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
```

```
APPLICANT: GOLdman, Barry S.

APPLICANT: Hinkle, Gregory J.

APPLICANT: Slater, Steven C.

TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES

FILE REFERENCE: 38-10(52052)A

CURRENT APPLICATION NUMBER: US/60/360,039

CURRENT FILING DATE: 2002-02-21

NUMBER OF SEQ ID NOS: 47374

SEQ ID NO 36500

DENOTH: 2569

TYPE: DNA

ORGANISM: Aspergillus nidulans

US-60-360-039-36500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Goldman, Barry S.

APPLICANT: Hinkle, Gregory J.

APPLICANT: Slater, Steven C.

TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF ITLE OF INVENTION: DIANTS WITH IMPROVED PROPERTIES

FILE REFERENCE: 38-10(52052)A

CURRENT APPLICATION NUMBER: US/60/360,039

CURRENT FILING DATE: 2002-02-21

NUMBER OF SEQ ID NOS: 47374

SEQ ID NO 35000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: DNA; ORGANISM: Methanosarcina mazei US-60-360-039-35000
                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               us-60-360-039-35000
RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-60-360-039-36500
                                                                                                                Query Match
Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Cao, Yongwei
APPLICANT: Chen, Xianf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
Matches 15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 35000, Application US/60360039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 36500,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            611 gttaattctcgttcct 626
                                               599 aattcgcgttcctc 612
                                                                                                                 Local Similarity 100.0%;
les 14; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 gttaattcgcgttcct 17
                                                                              5 aattcgcgttcctc 18
                                                                                                                                                                                                                                                                                                                                                                                                                                      Chen, Xianfeng
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Application US/60360039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 93.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      93.8%;
                                                                                                                                   77.8%; Score 14; DB 8; I 100.0%; Pred. No. 3.4e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 14.4; DB 7;
Pred. No. 1.9e+02;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 14.4; DB 8;
Pred. No. 2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                   Mismatches
                                                                                                                                                 Length 2569;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 651;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 914;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                     밁
```

```
APPLICANT: Byrum, Joseph R.
APPLICANT: Heck, Gregory R.
APPLICANT: La Rosa, Thomas J.
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants
FILE REFERENCE: 38 -21(1530) B
CURRENT APPLICATION NUMBER: US/09/975,254
CURRENT FILING DATE: 2001-10-12
PRIOR APPLICATION NUMBER: US/09/263,191
PRIOR APPLICATION NUMBER: US/09/263,191
PRIOR FILING DATE: 1999-03-05
SEQ ID NO 17320
LENGTH: 255
TYPE: DNA
ORGANISM: Glycine max
OTHER INFORMATION: Clone ID: 700954206H1
US-09-975-254-17320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: Glycine max
; OTHER INFORMATION: Clone ID:
US-09-975-254-30190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-975-254-30190 ; Sequence 30190, Application US/09975254
                                                                                                                                                                RESULT 11
US-09-975-254-17834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-975-254-17320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Bycum, Joseph R.
APPLICANT: Heck, Gregory R.
APPLICANT: La Rosa, Thomas J.
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(15509)B
CURRENT APPLICATION NUMBER: US/09/975,254
CURRENT FILING DATE: 2001-10-12
PRIOR APPLICATION NUMBER: US/09/263,191
PRIOR APPLICATION NUMBER: US/09/263,191
PRIOR FILING DATE: 1999-03-05
NUMBER OF SEQ ID NO 30190
LENGTH: 251
TYPE: DNA
TYPE: DNA
                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 17320, Application US/09975254 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                        Sequence 17834, Application US/09975254 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 76.7
Best Local Similarity 88.7
Matches 15; Conservative
APPLICANT: Byrum, Joseph R.
APPLICANT: Heck, Gregory R.
APPLICANT: La Rosa, Thomas J.
TITLE OF INVENTION: Nucleic Acid
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(15309)B
                                                                                                                                                                                                                                            170 cgttaattcactttcct 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 cgttaattcgcgttcct 17
                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                               76.7%;
88.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     76.7%;
88.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        700901009н1
                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                 Score 13.8;
Pred. No. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 13.8;
Pred. No. 4
                                              Molecules
                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                 4.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 5;
                                            and
                                                                                                                                                                                                                                                                                                                                                                       DB 5;
                                              Other Molecules
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 251;
                                                                                                                                                                                                                                                                                                                                                                     Length 255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  indels
                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                              0
                                              Associated With
                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
```

```
á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               : TYPE: DNA
: ORGANISM: Glycine max
: OTHER INFORMATION: Clone ID: 700752705H1
US-09-975-254-7020
                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         : TYPE: DNA
CORGANISM: Glycine max
OTHER INFORMATION: Clone ID: 700954789H1
US-09-975-254-17834
                                                                                                                                                                                                                                                                                                                             US-10-098-754-13158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-975-254-7020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                       Sequence 13158, Application US/10098754 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQ ID NOS: 31255
SEQ ID NO 7020
LENGTH: 263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 88.3
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION
APPLICANT: RAMACHANDER, RAKESH
TITLE OF INVENTION: NOVEL NUCLEIC ACID AND PROTEIN HOMOLOGS AND USES THEREOF
FILE REFERENCE: ATX-001CN
CURRENT APPLICATION NUMBER: US/10/098,754
CURRENT FILING DATE: 2002-03-15
PRIOR APPLICATION NUMBER: US 09/791539
PRIOR APPLICATION NUMBER: US 09/791539
PRIOR FILING DATE: 2001-02-22
NUMBER OF SED ID NOS: 21107
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 13158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 7020,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 17834
LENGTH: 255
                                                                                                                                                                                                        APPLICANT: Harrington, John J
APPLICANT: Jackson, P. David
APPLICANT: Sherf, Bruce A.
APPLICANT: Cain, Scott
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Byrum, Joseph R.
APPLICANT: Heck, Gregory R.
APPLICANT: La Rosa, Thomas J.
TITLE OF INVENTION: Nuclect Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(15309)B
CURRENT APPLICATION NUMBER: US/09/975,254
CURRENT FILING DATE: 2001-10-12
PRIOR APPLICATION NUMBER: US/09/263,191
PRIOR FILING DATE: 1999-03-05
                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US/09/263,191
PRIOR FILING DATE: 1999-03-05
NUMBER OF SEQ ID NOS: 31255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/975,254
CURRENT FILING DATE: 2001-10-12
                                                                                                                                                                                                                                                                                                                                                                                                       174 cgttaattcactttcct 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      169 cgttaattcactttcct 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                        1 cgttaattcgcgttcct 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 cgttaattcgcgttcct 17
                                                                                                                                                                                      Rundlett, Stephen E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Application US/09975254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                76.7%;
88.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 76.7%;
88.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 13.8;
Pred. No. 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 13.8;
Pred. No. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4.2e+02;
.ches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1.2e+02;
2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 263;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                    믕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                          RESULT 15
                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH:
```

```
US-10-027-632-309725/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; ORGANISM: Human US-10-027-632-61031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: US 60/218,006
PRIOR FILING DATE: 2000-07-12
PRIOR APPLICATION NUMBER: US 60/198,676
PRIOR FILING DATE: 2000-04-20
PRIOR APPLICATION NUMBER: US 60/193,483
PRIOR FILING DATE: 2000-03-29
PRIOR APPLICATION NUMBER: US 60/185,218
PRIOR APPLICATION NUMBER: US 60/185,218
PRIOR FILING DATE: 2000-02-24
PRIOR APPLICATION NUMBER: US 60/167,363
PRIOR APPLICATION NUMBER: US 60/167,363
PRIOR APPLICATION NUMBER: US 60/156,358
PRIOR APPLICATION NUMBER: US 60/156,358
PRIOR APPLICATION NUMBER: US 60/167,363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PEATURE: nisc_feature
| NAME/KEY: misc_feature
| LOCATION: (1)...(366)
| OTHER INFORMATION: n = A,T,C or
US-10-098-754-13158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-027-632-61031/c
                                                                                     Sequence 309725, Application US/10027632
GENERAL INFORMATION:
APPLICANT: Wang, David G.
TITLE OF INVENTION: Identification and Mapping of Single Nucleotide
TITLE OF INVENTION: Polymorphisms in the Human Genome
FILE REFERENCE: 108827.129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 61031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 61031, Appl
GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
CURRENT APPLICATION NUMBER: US/10/027,632 CURRENT FILING DATE: 2002-04-30 PRIOR APPLICATION NUMBER: US 60/218,006 PRIOR FILING DATE: 2000-07-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Wang, David G.
TITLE OF INVENTION: Identification and Mapping of Single Nucleotide
TITLE OF INVENTION: Polymorphisms in the Human Genome
FILE REFERENCE: 108827.129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/10/027,632
CURRENT FILING DATE: 2002-04-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 60/146,002 PRIOR FILING DATE: 1999-08-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 366
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                               162 GTTAAGTCGCGTTCTTC 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             294 gttaattctctttcctc 310
                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
mes 15; Conserv
                                                                                                                                                                                                                                                                                                                                                         2 gttaattcgcgttcctc 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 gttaattcgcgttcctc 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     l Similarity
15; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Application US/10027632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2002-04-30
                                                                                                                                                                                                                                                                                                                                                                                                                          76.7%;
88.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       76.7%;
88.2%;
                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                        Score 13.8; DB 7;
Pred. No. 4.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 13.8; DB 6;
Pred. No. 4.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 563;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 366;
                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                   <u>..</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
```

```
PRIOR APPLICATION NUMBER: US 60/198,676
PRIOR FILING DATE: 2000-04-20
PRIOR FILING DATE: 2000-03-29
PRIOR APPLICATION WIMBER: US 60/185,218
PRIOR APPLICATION UNMBER: US 60/167,363
PRIOR FILING DATE: 1999-11-23
PRIOR FILING DATE: 1999-11-23
PRIOR FILING DATE: 1999-11-23
PRIOR FILING DATE: 1999-09-28
PRIOR FILING DATE: 1999-09-28
PRIOR FILING DATE: 1999-09-29
NUMBER OF SEQ ID NOS: 325720
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 309725
LENGTH: 563
TYPE: DAN
ORGANISM: Human
US-10-027-632-309725

Query Match
Best Local Similarity 88.2%: Pred. No. 4.2e+02:
Matches 15; Conservative 0; Mismatches 2; Indels 0; Gaps
Oy 2 gitaattcgcgftcctc 18
Db 162 GTAAGTCCGCGTTCTTC 146

Scarch completed: August 22, 2002, 00:50:57
Job time: 11897 sec
```

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Searched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Total number of
                                                                         Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                          GenEmbl:*
1: 9b_ba:*
2: 9b_htg:
3: 9b_ntg:
3: 9b_now:*
4: 9b_ow:*
6: 9b_pa.*
6: 9b_ph:
8: 9b_ph:
9: 9b_pr:
10: 9b_r:
11: 9b_s
12: 9b_s
12: 9b_s
13: 9b_s
14: em_
16: em_
17: em_
18: em_
20: em
21: em
22: em
23: em
24: e
25: e
26: e
27: f
28: -
31: 33:
                Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hits satisfying chosen parameters:
               Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-046-955-51
21
1 ctaacacctcgcaac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Minimum Match 08
Maximum Match 1008
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            August 21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1797656 seqs, 10463268293 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                gb_p1:*
gb_pr:*
gb_ro:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                    gb_pat:*
                                                                                                                        em_htg_hum:*
em_htg_inv:*
em_htg_other:*
em_htgo_inv:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gb_ov:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gb_om:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gb_ba:*
                                                                                                                                                                         em_om:*
em_or:*
em_ov:*
em_pat:*
em_ph:*
em_ph:*
em_pl:*
em_ro:*
em_ro:*
                                                                                                                                                                                                                                                                                                                                                               gb_sy:*
gb_un:*
gb_v1:*
                                                                                                                                                                                                                                                                                                               em_in:*
                                                                                                                                                                                                                                                                                                                                                      em_ba:*
                                                                                                                                                                                                                                                                                                                                                                                                    gb_sts:*
                                                                                                                                                                                                                                                                                                     em_mu:*
                                                                                                                                                                                                                                                                                                                             em_hum:*
                                                                                                                                                                                                                                                                                                                                         em_fun:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2002,
                DB
                ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22:09:51;
                                                    SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Search time 2238.68 Seconds (without alignments) 196.302 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3595312
                Description
                            REFERENCE
AUTHORS
TITLE
                                                                                                                                                 KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                       ACCESSION
VERSION
                                                                                                                                                                                                                                                   RESULT
AF117921
LOCUS
                                                                                                               REFERENCE
                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ၀ ၀
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  000
                                                                                                                                                                                                                                                                                                                                                      0000
                JOURNAL
                                                                  JOURNAL
                                                                                        TITLE
                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                              4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

4444

                                                                                                                                                                                                                                                                                                                                                    2 (bases 1 to 319)
Choi,J.S., Westerman,J.M. and Morrison,C.J.
Direct Submission
Submitted (09-SEP-1998) DBMD, CDC, 1600 Clifton Rd., Atlanta, 30333, USA
                                                                                    Eukaryota; Fungi; Ascomycota; Pezizomycotina;
Hypocreales; Nectriaceae; Nectria.
1 (bases 1 to 319)
Choi, J.S., Westerman, J.M. and Morrison, C.J.
                                                                                                                                                                                                                 AF117921 319 bp DNA linear FLN 17-000 2000 Nectria haematococca 5.8S ribosomal RNA gene, partial sequence; internal transcribed spacer 2, complete sequence; and 28S ribosomal
                                                                                                                                                 Nectria haematococca
                                                                                                                                                                                                   RNA gene, partial sequence.
AF117921
                                                                           DNA probes
                                                                                                                                                               Nectria haematococca.
                                                                                                                                                                                      AF117921.1 GI:8570107
                                                                                                                                                                                                                                                                                                                                                      NNN0000000000000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             000000
                                                                                                                                                                                                                                                                                                                                                      AF117921
AF243472
AY043472
AY043473
AY043473
AF2130469
AF2150469
AF250469
AF250469
AF250469
AF250469
AF250469
AF250479
AF27043479
AF270404
AF2704
                                                                                                                                                                                                                                                                                                                ALIGNMENTS
                                                                                      fungi using species-specific
                                                                                                                                                                                                                              gene, partial sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            U38558 FUSARILM SO
AF150460 NECTIA h
AF150460 NECTIA h
AF150461 NECTIA h
AF150461 NECTIA h
AF150462 NECTIA h
AF150465 NECTIA h
AF150465 NECTIA h
AF150465 NECTIA h
AF150466 NECTIA h
AF150467 NECTIA h
AF150467 NECTIA h
AF150467 NECTIA h
AF150479 NECTIA h
AF150477 NECTIA h
AF150477 NECTIA h
AF150479 NECTIA h
AF150479 NECTIA h
AF150479 NECTIA h
AF150479 NECTIA h
AF150480 NECTIA h
                                                                                                                                        Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AF117921 Nectria h
AF161222 Fusarium
AY043472 Haematone
AY043473 Haematone
AY043478 Haematone
U38558 Fusarium so
                                                                                                                                                                                                                                                                                                                                                               AF178397
AF178394
AF178394
AF178394
AF1784001
AF1784007
AF1784007
AF178422
AF178422
AF129104
AF129104
AF129104
                                                                                                                                                                                                                                                                                                                                                                                                 Nectria 1
Nectria h
Nectria h
Fusarium
Fusarium
Fusarium
Nectria h
                                                                                                                                                                                                                                                                                                                                                               Haematone
Haematone
Haematone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fusarium
Fusarium
                င္
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                      JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
AF161222
  밁
                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Snoor
                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
TITLE
                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                  Matches
                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rRNA
                                                                                                                                                                                                                                           misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                 misc_RNA
                                                                                                                                                                                                                                                                              source
  390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 ctaacacctcgcaactggaga 21
                       _
CTAACACCTCGCAACTGGAGA 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AF161222 471 bp DNA linear PLN 09-FEB-2000 Fusarium solani internal transcribed spacer 1, partial sequence; 5.8s ribosomal RNA gene, complete sequence; internal transcribed spacer 2, and 28s ribosomal RNA gene, partial sequence.

AF161222 AF161222
                                                 Similarity
21; Conserv
                                                                                                                                                                                                                                                                                                                                     2 (bases 1 to 471)
Grunden, E., Chen, W. and Crane, J.L.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21; Conserv
                                                                                                                                                                                                                                                                                                               Submitted (21-JUN-1999) Center for Biodiversity, I History Survey, IL Dept. Natural Resources, 607 E.
                                                                                                                                                                                                                                                                                                                                                                         Unpublished
                                                                                                                                                                                                                                                                                                                                                                                   Grunden,E., Chen,W. and Crane,J.L.
Fungi Colonizing Microsclerotia of Verticllium dahliae
                                                                                                                                                                                                                                                                                                                                                                                                                                            Nectria haematococca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AF161222.1
                                                                                                                                                                                                                                                                                                                                                                                                                     Hypocreales; Nectriaceae; Nectria.
                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Fungi; Ascomycota; Pezizomycotina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nectria haematococca.
                                                                                                                                                                                                                                                                                                                                                                                                           (bases 1 to 471)
                                                                                                                       121
                                               100.0%; ilarity 100.0%; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           77
                                                                                                                                                                                                                                          /organism="Nectria haematococca"
/db_xref="taxon:140110"
<1. .117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product="internal transcribed 273. .>319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Nectria haematococca"
/db_xref="taxon:140110"
<1. .159
                                                                                                                       /product="28S ribosomal RNA"
133 c 117 g 100 t
                                                                                                                                             /product="internal transcribed 451. .>471
                                                                                                                                                                                /product="5.8S ribosomal RNA" 277. .450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product="28S ribosomal RNA"
96 c 84 g 62 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /product="5.8S ribosomal RNA" 160. .272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                   /note="ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="ITS2"
                                                                                                                                                                                                                                /note="ITS1"
                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                   'product="internal transcribed spacer 1"
                                                                                                                                                                                                                                                                                                     rvey, IL Dept.
IL 61820, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GI:6941832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%;
                                                                                                                                           .>471
                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                            Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 21; DB 8; Pred. No. 6.7;
                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                      9
                                                            6.3;
                                                                       DB 8;
                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                         spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              spacer 2"
                                                                       Length 471;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 319;
                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                    Sordariomycetes;
                                                                                                                                                                                                                                                                                                               Illinois Natural
E. Peabody Dr.,
                                               0:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                               Gaps
                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                     JOURNAL REFERENCE
                                                                                                       REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 3
AY043472/c
                                                                                                                                                                                                                                                                            RESULT 4
AY043473/c
                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                 ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
                                                                                                                                                                                SOURCE
                                                                                                                                                                                          KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KEYWORDS
                                                                                                                                                                                                        VERSION
                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
TITLE
                                              AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                            59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AY043472
                                                                                 Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AY043472.1
                                                                                                                                                                                                        AY043473.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unpublished
                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                               94
                                                                                                                                                                                                                                                                                                                                                                                                                                               Ø
```

```
1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTAACACCTCGCAACTGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                  471 bp DNA linear PLN 05-SEP-20(
Haematonectria haematococca strain 39 internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence.
AXO43473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Direct Submission
Direct Submission
Submitted (03-JUL-2001) Genomic Biotechnology, Universidade
Catolica de Brasilia, SGAN 916 Modulo B, Brasilia, DF 70790-160,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Miller,R.N.G. and Lopes,C.A.

rDNA sequence variability in Fusarium solani populations

rDNA in the sequence variability in Fusarium solani populations

rDNA sequence variability in Fusarium solani populations
                                          Miller,R.N.G. and Lopes,C.A.

Direct Submission
Submitted (03-JUL-2001) Genomic Biotechnology, Universidade Catolica de Brasilia, SGAN 916 Modulo B, Brasilia, DF 70790-
                                                                                                                                                                                     Miller,R.N.G. and Lopes,C.A. rDNA sequence variability in Fusarium solani populations associated with eumartii wilt and dry rot of potato in Brazil
                                                                                                                                                                                                                                                                               Nectria haematococca
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hunocreales; Nectriaceae; Nectria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nectria haematococca
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        complete sequence. AY043472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Haematonectria haematococca strain 1, 5.8S ribosomal RNA gene, and int
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Miller, R.N.G. and Lopes, C.A.
                                                                                                                                                                                                                                                                                                                                                                                Nectria haematococca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nectria haematococca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 471)
                                                                                                                                                   (bases 1 to 471)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (bases 1 to 471)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; ilarity 100.0%; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="taxon:140110"
/note="anamorph: Fusarium solanii"
complement(1. .471)
/note="contains internal transcribed spacer 1,
ribosomal RNA, and internal transcribed spacer
a 121 c 136 g 118 t 2 others
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /strain="35"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Nectria haematococca"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GI:15450333
                                                                                                                                                                                                                                                                                                                                                                                                                                   GI:15450334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 21; DB 8;
Pred. No. 6.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         471 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA linear ...
35 internal transcribed spacer
ternal transcribed spacer 2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 471;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PLN 05-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PLN 05-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                    70790-160,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

```
BASE COUNT
ORIGIN
ACCESSION
VERSION
                                                   RESULT
FSU38558
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 5
AY043478/c
LOCUS
                                                                                                              밁
                                                                                                                                    Ş
                                                                                                                                                                                                                           BASE COUNT
ORIGIN
                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 21
                                                                                                                                                                Matches
                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                           misc_RNA
                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_RNA
                                                                                                              59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                            Fusarium
internal
U38558
                                                                                                                                                                                                                                                                                                                                                                          Miller,R.N.G. and Lopes,C.A.

Direct Submission
Submitted (03-JUL-2001) Genomic Biotechnology, Universidade
Catolica de Brasilia, SGAN 916 Modulo B, Brasilia, DF 70790-160,
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Miller,R.N.G. and Lopes,C.A.
rDNA sequence variability in Fusarium solani
with eumartii wilt and dry rot of potato in E
                                                FSU38558
                                                                                                                                                                                                                                                                                                                                                                  Brazil
                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nectria haematococca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AY043478
AY043478.1 GI:15450339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             complete sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Haematonectria haematococca
1, 5.8S ribosomal RNA gene,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AY043478
                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nectria haematococca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hypocreales; Nectriaceae; Nectria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 471)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases
                                                                                                                                                              Conservative
                                                                                                                                                                                                                                      91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; ilarity 100.0%; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            D
                                                                                                                                                                                                                        complement(1. .471)
complement(1. .471)
/note="contains internal transcribed spacer 1,
ribosomal RNA, and internal transcribed spacer
ribosomal RNA and Internal transcribed spacer
a 120 c 138 g 121 t 1 others
                       solani 5.8S ribosomal transcribed spacers 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="contains internal transcribed spacer 1,
ribosomal RNA, and internal transcribed spacer
a 118 c 142 g 118 t 1 others
                                                                                                                                                                                                                                                                                    /strain="83"
/db_xref="taxon:140110"
/note="anamorph: Fusarium solanii"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /db_xref="taxon:140110"
/note="anamorph: Fusarium solanii"
complement(1. 471)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Nectria haematococca"
/strain="39"
                                                                                                                                                                                                                                                                                                                            /organism-"Nectria haematococca"
                                                                                                                                                                                                                                                                                                                                          1. .471
                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
 GI:1054930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 to 471)
                                                                                                                                                                         100.0%;
                                                                                                                                                                0
                       ribosomal RNA spacers 1 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                         Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
Pred.
                                                477 bp
                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21;
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB
6.3;
                                                                                                                                                                           6
                                                                                                                                                                          DB 8;
6.3;
                          gene,
2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8;
                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                      complete
                                                                                                                                                                                     Length 471;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 471;
                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Brazil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 populations
                                      sequence
                                                PLN 08-NOV-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PLN 05-SEP-2001
                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                  5.8S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5.8S
2"
                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       spacer
r 2,
                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
AF132801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rRNA
                                                                                                                                                                              rRNA
                                                                                                                misc_RNA
                                                                                                                                                                                                                                                                  misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTAACACCTCGCAACTGGAGA 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Harrington, T.C., Steimel, J.P., Workneh, F. and Yang, X.B. Molecular Identification of Fungi Associated with Vascular Discoloration of Soybean in the North Central United States Plant Dis. 84 (1), 83-89 (2000)

2 (bases 1 to 478)

Harrington, T.C., Steimel, J.P., Workneh, F. and Yang, X.B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nectria haematococca internal transcribed spacer 1, 5.8S ribosomal RNA, and internal transcribed spacer 2, complete sequence.

AF132801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nectria haematococca
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; Nectriaceae; Nectria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
Submitted (03-MAR-1999) Plant Pathology, Submitted (03-MAR-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hypocreales; Nectriaceae; 1 (bases 1 to 478)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nectria haematococca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (13-OCT-1995) Arti Duggal, I Willcocks St., Toronto, Ont. M5S 3B3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fusarium solani.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Room 351 Bessey Hall, Ames, 1
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nectria haematococca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AF132801.1 GI:4809015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Duggal, A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 477)
                               123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                               ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                        /product="internal transcribed spacer 138 c 115 g 102 t
                                                                                                                                                                           /product="internal transcribed
150. .306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /product="5.8S ribosomal RNA" 307. .477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Nectria haematococca"
/db_xref="taxon:140110"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1. .477
                                                                                       /note="ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  307. 477
/note="internal transcribed spacer 2; ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                  /product="5.8S ribosomal RNA"
                                                                                                                                                                                                                                   'note-"ITS1"
                                                                                                                                                                                                                                                                  country="USA:
                                                                                                                                                                                                                                                                                                                                                      /specific_host="Glycine
/db_xraf="taxon:140110"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="internal transcribed spacer 1; ITS1"
                                                                                                                                                                                                                                                                                                                       'tissua_type="mycelium"
                                                                                                                                                                                                                                                                                                                                                                                                                    'isolate="P185"
                                                                                                                                                                                                                                                                                                                                                                                                                                          organism="Nectria haematococca"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               143 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  . 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 21; I
Pred. No. 6.
                                                                                                                                                                                                                                                                                           Iowa, Lee County*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nectria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB
5.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               đ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Forestry,
, Canada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                    spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Iowa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 477;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                State University,
                                                           ນຸ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Univ. of Toronto,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               w
```

```
SOURCE
ORGANISM
                                                                                                                                                      LOCUS
DEFINITION
                                                                                                                                                                                  RESULT
AF150460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
AF150459
LOCUS
                                                                                                                                                                                                                                                 용
                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
   REFERENCE
                                                                            KEYWORDS
                                                                                              VERSION
                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERS ION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                  419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      419
                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence.
AF150460
                                                                                                                                                                                                                                                                                                          ch 100.0%;
Similarity 100.0%;
21; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Suga, H., Hasegawa, T., Mitsui, H., Kageyama, K. and Hyakumachi, M. Phylogenetic analysis of phytopathogenic fungus, Fusarium solani based on the rDNA-TTS region
Mycol. Res. 104 (10), 1175-1183 (2000)
2 (bases 1 to 478)
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes; Hypocreales; Nectriaceae; Nectria. 1 (bases 1 to 478)
                                            Nectria haematococca.
Nectria haematococca
                                                                                                                                    AF150460 478 bp DNA linear PLN 05-JAN-2001
Nectria haematococca strain Fl internal transcribed spacer 1, 5.8S
ribosomal RNA gene, and internal transcribed spacer 2, complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (12-MAY-1999) Molecular Genetics Research Center, Gifu University, Gifu 501-1112, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Suga, H., Hyakumachi, M. and Kageyama, K. Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hypocreales; Nectriaceae; Nectria. 1 (bases 1 to 478)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nectria haematococca.
Nectria haematococca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AF150459 AR9 DNA linear PLN 05-J
Nectria haematococca strain K-l internal transcribed spacer
ribosomal RNA gene, and internal transcribed spacer 2, compl
                                                                                           AF150460.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AF150459.1 GI:7650157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AF150459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sequence.
                                                                                                                                                                                                                                                                                                                                                                                                     123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                     þ
                                                                                                                                                                                                                                                                                                                                                                                                    /product="internal transcribed spacer 2" 138 c 115 g 102 t
                                                                                                                                                                                                                                                                                                                                                                                                                                    /product="5.8S ribosomal RNA" 308. .478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                /product="internal transcribed spacer 1"
150. .307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1. .478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /db_xref="taxon:140110"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /strain="K-l"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Nectria haematococca"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            note-"anamorph: Fusarium solani"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ocation/Qualifiers
                                                                                           GI:7650158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  . 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 21; DB
100.0%; Pred. No. 6.3;
                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                         Score 21; DB Pred. No. 6.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                         DB 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                       Length 478;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PLN 05-JAN-2001
d_spacer_1, 5.8S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

```
JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                 JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 1
AF150461
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                              misc_RNA
                                                                                 rRNA
                                                                                                                 misc_RNA
                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    y Match 100.0%;
Local Similarity 100.0%;
hes 21; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sequence.
AF150461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          478 bp DNA linear Nectria haematococca strain F4 internal transcribed ribosomal RNA gene, and internal transcribed sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Suga, H., Hasegawa, T., Mitsui, H., Kageyama, K. and Hyakumachi, M. Phylogenetic analysis of phytopathogenic fungus, Fusarium sola based on the rDNA-ITS region
Mycol. Res. 104 (10), 1175-1183 (2000)
2 (bases 1 to 478)
                                                                                                                                                                                                                                                                                           Suga, H., Hasegawa, T., Mitsui, H., Kageyama, K. and Hyakumachi, M. Phylogenetic analysis of phytopathogenic fungus, Fusarium solani based on the rDNA-ITS region
Mycol. Res. 104 (10), 1175-1183 (2000)
2 (bases 1 to 478)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     University, Gifu 501-1112, Japan Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Suga, H., Hyakumachi, M. and Kageyama, K. Direct Submission
                                                                                                                                                                                                                             Submitted (12-MAY-1999) Molecular Genetics Research Center, Gifu University, Gifu 501-1112, Japan
                                                                                                                                                                                                                                                                 Suga, H., Hyakumachi, M. and Kageyama, K. Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                Nectria haematococca
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nectria haematococca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (12-MAY-1999) Molecular Genetics Research Center,
                                                                                                                                                                                                                                                                                                                                                                                                    Hypocreales; Nectriaceae; Nectria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AF150461.1
                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 478)
               123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123
               ß
                                                /product="5.8S ribosomal RNA" 308. .478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /product="5.8S ribosomal RNA" 308. .478
            /product="internal transcribed spacer 138 c 115 g 102 t
                                                                              /product="internal transcribed spacer 1"
150. .307
                                                                                                                                                                /organism="Nectria haematococca"
/strain="F4"
                                                                                                                                                                                               1. .478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product="internal transcribed spacer 138 c 115 g 102 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          150.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Nectria haematococca"
/strain="F1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1. .478
                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                               note="anamorph: Fusarium solani"
                                                                                                                                                /db_xref="taxon:140110"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'product="internal transcribed spacer 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       note-"anamorph: Fusarium solani"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /db_xref="taxon:140110"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GI:7650159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 21; DB Pred. No. 6.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fungus, Fusarium solani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                   Sordariomycetes;
                               2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    spacer 1, 2, comple
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PLN 05-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gifu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

```
LOCUS
DEFINITION
                                                                                                                                                                                                                                     RESULT 1
AF150463
                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
TITLE
                                       REFERENCE
                                                                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
KEYWORDS
                                                                                        SOURCE
ORGANISM
                                                                                                                        KEYWORDS
                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 11
AF150462
                                                                                                                                          VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
        AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rocus
                                                                                                                                                                                                                                                                                                                                                                                    Ouery Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rRNA
                                                                                                                                                                                                                                                                                                       419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes; Hypocreales; Nectriaceae; Nectria.

1 (bases 1 to 478)

Suga, H., Hasegawa, T., Mitsui, H., Kageyama, K. and Hyakumachi, M. Phylogenetic analysis of phytopathogenic fungus, Fusarium solani
                                                                                                                                                                                   AF150463 478 bp DNA linear PLN 05-JAN-2001 Nectria haematococca strain SUF471 internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sequence.
AF150462
                                                                                    Nectria haematococca.
Nectria haematococca
                                                                                                                                        AF150463.1 GI:7650161
                                                                                                                                                                     complete sequence.
                                                                                                                                                                                                                      AF150463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Suga, H., Hasegawa, T., Mitsui, H., Kageyama, K. and Hyakumachi, M. Phylogenetic analysis of phytopathogenic fungus, Fusarium sola based on the rDNA-TTS region
Mycol. Res. 104 (10), 1175-1183 (2000)
2 (bases 1 to 478)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (12-MAY-1999) Molecular Genetics Research Center, Gifu University, Gifu 501-1112, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Suga,H., Hyakumachi,M. and Kageyama,K. Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AF150462 478 bp DNA linear PLN 05-JAN-
Nectria haematococca strain SW1 internal transcribed spacer 1, 1
ribosomal RNA gene, and internal transcribed spacer 2, complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nectria haematococca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AF150462.1 GI:7650160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21;
                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hypocreales; Nectriaceae; Nectria.

1 (bases 1 to 478)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nectria haematococca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              h 100.0%;
Similarity 100.0%;
21; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       123
                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product="internal transcribed spacer 2" 138 \text{ c} 115 \text{ g} 102 \text{ t}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product="5.85 ribosomal RNA" 308. .478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Nectria haematococca"
/strain="SW1"
/db_xref="taxon:140110"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /product="internal transcribed spacer 1"
150. .307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="anamorph: Fusarium solani"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                115 g
                                                                                                                                                                                                                                                                                                                                                                                   Score 21; DB Pred. No. 6.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 21; DB 8; Length 478; Pred. No. 6.3; Indels
                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                DB 8;
                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                Length 478;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fusarium solani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PLN 05-JAN-2001
1 spacer 1, 5.8S
                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                           JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 1
AF150464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL REFERENCE AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                  misc_RNA
                                                                                                                                                  rRNA
                                                                                                                                                                                 misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      419 CTAACACCTCGCAACTGGAGA 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                         Suga, H., Hasegawa, T., Mitsui, H., Kageyama, K. and Phylogenetic analysis of phytopathogenic fungus, based on the rDMA-ITS region
Mycol. Res. 104 (10), 1175-1183 (2000)
2 (bases 1 to 478)
Suga, H., Hyakumachi, M. and Kageyama, K.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AF150464 478 bp DNA linear PLN 05-JAN-2001 Nectria haematococca strain SUF208 internal transcribed spacer 1, 5.85 ribosomal RNA gene, and internal transcribed spacer 2,
                                                                                                                                                                                                                                                                                           Submitted (12-MAY-1999) Molecular Genetics Research Center, Gifu University, Gifu 501-1112, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; Nectriaceae; Nectria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nectria haematococca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AF150464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nectria haematococca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AF150464.1 GI:7650162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          complete sequence. AF150464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Suga, H., Hyakumachi, M. and Kageyama, K. Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        based on the rDNA-ITS region
Mycol. Res. 104 (10), 1175-1183 (2000)
2 (bases 1 to 478)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (12-MAY-1999) Molecular Genetics Research Center, Gifu University, Gifu 501-1112, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                           (bases 1 to 478)
                                                                                   123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 21; ilarity 100.0%; Pred. No. Conservative 0; Mismatch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                              /product="5.8S ribosomal RNA" 308. .478
                                                                              /product="internal 139 c 115 g
                                                                                                                                                                                                                           /organism="Nectria haematococca"
/strain="SUF208"
                                                                                                                                                         /product="internal transcribed spacer 1"
                                                                                                                                                                                                            /db_xref="taxon:140110"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /product="internal transcribed 138 c 115 g 102 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product="5.8S ribosomal RNA" 308. .478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product="internal transcribed
150. .307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Nectria haematococca"
/strain="SUF471"
/db_xref="taxon:140110"
/not=="anamorph: Fusarium solani f. sp. radicicola"
                                                                                                                                                                                         /note="anamorph: Fusarium solani f. sp. radicicola"
                                                                                                                                                                                                                                                                           ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
 100.0%;
 Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                              transcribed spacer 2"
21;
No.
 6.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DΒ
             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              spacer 1"
               Length 478;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                      Hyakumachi, M.
Fusarium solani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
```

```
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
ORIGIN
                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                          RESULT 15
AF150469
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 14
AF150465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 21
                                 TITLE
   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                           419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Suga, H., Hasegawa, T., Mitsui, H., Kageyama, K. and Hyakumachi, M. Phylogenetic analysis of phytopathogenic fungus, Fusarium solani based on the rDNA-TTS region Mycol. Res. 104 (10), 1175-1183 (2000)
                                                                                                                                                                                                                                                                                                                                                                                        ch 100.0%;
l Similarity 100.0%;
21; Conservative 0
                                                                          Nectria haematococca
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
Hypocreales; Nectriaceae; Nectria.
                                                                                                                                                                                                          AF150469 479 bp DNA linear PLN 05-J
Nectria haematococca strain MAFF236572 internal transcribed
1, 5.85 ribosomal RNA gene, and internal transcribed spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Suga, H., Hyakumachi, M. and Kageyama, K.
Direct Submission
Submitted (12-MAY-1999) Molecular Genetics Research Center, Gifu
University, Gifu 501-1112, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Suga, H., Hasegawa, T., Mitsui, H., Kageyama, K. and Hyakumachi, M. Phylogenetic analysis of phytopathogenic fungus, Fusarium solani based on the rDNA-TTS region
Mycol. Res. 104 (10), 1175-1183 (2000)
2 (bases 1 to 478)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               complete sequence. AF150465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21;
                                                                                                                              Nectria haematococca.
                                                                                                                                                              AF150469.1
                                                                                                                                                                            complete sequence.
AF150469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nectria haematococca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AF150465.1 GI:7650163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AF150465 478 bp DNA linear PLN 05-JAN-2001 Nectria haematococca strain SUF532 internal transcribed spacer 1, 5.85 ribosomal RNA gene, and internal transcribed spacer 2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hypocreales; Nectriaceae; Nectria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nectria haematococca.
                                                                (bases 1 to 479)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 478)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product="internal transcribed spacer 2"
138 c 114 g 102 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product="5.8S ribosomal RNA" 308. .478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism-"Nectria haematococca"
/strain-"SUF532"
/db_xref="taxon:140110"
/note-"anamorph: Fusarium solani f. sp. radicicola"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product="internal transcribed spacer 1"
150. .307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  location/Qualifiers
                                                                                                                                                              GI:7650167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . 149
                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                         Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                          6.3;
                                                                                                                                                                                                                                                                                                                                                                                                                        DB 8;
                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                                                                      Length 478;
                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                              Sordariomycetes;
                                                                                                                                                                                                                                            PLN 05-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                          spacer
2,
                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
```

```
BASE COUNT
ORIGIN
                           δõ
                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
TITLE
밁
                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                    Query Match
Best Local Similarity
                                                           Matches
                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                          misc_RNA
                                                                                                                                                                                                           IRNA
                                                                                                                                                                                                                                     misc_RNA
                                                                                                                                                                                                                                                                                                              source
419 CTAACACCTCGCAACTGGAGA 439
               1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                        2 (bases 1 to 479)
Suga, H., Hyakumachi, M. and Kageyama, K.
Direct Submission
Submitted (12-MAY-1999) Molecular Genetics Research Center, Gifu
University, Gifu 501-1112, Japan
Location/Qualifiers
                                                                                                                                                120
                                                       100.0%;
illarity 100.0%;
Conservative (
                                                                                                                                                ø
                                                                                                                                                                            /product="5.8S ribosomal RNA" 310. .479
                                                                                                                                             /product="internal transcribed spacer 2"
148 c 114 g 97 t
                                                                                                                                                                                                        /product="internal transcribed spacer 1"
152. .309
                                                                                                                                                                                                                                                  /organism="Nectria haematococca"
/strain="MAFF236572"
/db_xref="taxon:140110"
/note="anamorph: Fusarium solani f. sp. piperis"
                                                         0
                                                                     Score 21; DB |
Pred. No. 6.3;
                                                         Mismatches
                                                                                   8
                                                       0,
                                                                                  Length 479;
                                                       Indels
                                                       0,
                                                       Gaps
                                                       0
```

Search completed: August 21, 2002, 22:09:51 Job time: 14205 sec

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Total number of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 seq
                                                                                                                                                                                                                                                                                                                                                                                                                       length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hits satisfying chosen parameters:
           18:
19:
20:
21:
22:
23:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-046-955-51
21
                                                                           SIDSI/gcgdata/geneseq/geneseqn-embl/NA1985.DAT: *

SIDSI/gcgdata/geneseq/geneseqn-embl/NA1986.DAT: *

SIDSI/gcgdata/geneseq/geneseqn-embl/NA1987.DAT: *

SIDSI/gcgdata/geneseq/geneseqn-embl/NA1987.DAT: *

SIDSI/gcgdata/geneseq/geneseqn-embl/NA1989.DAT: *

SIDSI/gcgdata/geneseq/geneseqn-embl/NA1999.DAT: *

SIDSI/gcgdata/geneseq/geneseqn-embl/NA1999.DAT: *

SIDSI/gcgdata/geneseq/geneseqn-embl/NA1991.DAT: *

SIDSI/gcgdata/geneseq/geneseqn-embl/NA1992.DAT: *

SIDSI/gcgdata/geneseq/geneseqn-embl/NA1993.DAT: *

SIDSI/gcgdata/geneseq/geneseqn-embl/NA1994.DAT: *

SIDSI/gcgdata/geneseq/geneseqn-embl/NA1995.DAT: *

SIDSI/gcgdata/geneseq/geneseqn-embl/NA1999.DAT: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1736436 seqs, 858457221 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               August 21, 2002, 22:22:47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1980.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1981.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1982.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1983.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-emb1/NA1984.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-emb1/NA2001A.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-emb1/NA2001B.DAT:*
/SIDS1/gcgdata/geneseq/geneseqn-emb1/NA2002.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Search time 594.49 Seconds (without alignments) 60.649 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3472872
```

score greater than and is derived by a Pred. No. is the number of results predicted by chance to have a ster than or equal to the score of the result being printed, when the score distribution.

vo	8	7	6	տ	4	ω	2	1	Result No.
15.8	15.8	16.2	17	17	19	19	21	21	Score
75.2	75.2	77.1	81.0	81.0	90.5	90.5	100.0	100.0	Query Match Length DB
1815	1399	33769	2706	510	561	502	319	21	Length
23	23	22	21	21	19	21	20	20	D8
ABL02977	ABL09973	ABA82622	AAC45891	AAC37182	AAV59009	AAA61893	AAV70850	AAV83698	ID
Drosophila melanog	Drosophila melanog	Human HBM gene reg	Arabidopsis thalia	Arabidopsis thalia	F. avenaceum inter	Fusarium sp. MF638	Internal transcrib	Species-specific p	Description

	O		a			a												C	O		Ω									o					
45	44	4 3	42	41	40	39	38	37	36	35	34	w	32	ω L	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10
15.2		٠		٠	15.2				15.2		15.2	15.2	15.2				15.4	15.4	15.4	15.4	15.4	15.4	15.4		•	٠	•	•	•		•		15.8	15.8	15.8
72.4		72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	N	2														•			•	75.2		75.2
13757	3070	2736	2366	1932	1800	1796	1611	1609	1370	1235	1173	551	551	352	352	352	41723	29555	6325	4676	3713	3433	3061	2853	2790	2790	2310	1884	1260	989	4763	4354	3947	3405	3399
22	23	22	23	20	22	22	21	21	21	22	21	22	22	20	20	20	23	18	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	24	23
ABA88957	ABL06688	ABA88958	ABL15104	AAZ19961	AAF80351	AAH89924	AAC33022	AAC46043	AAC50337	AAI59374	AA294583	AAK70031	AAK70030	AAH86549	AAH86548	AAH86546	ABL23684	AAV74517	ABL06620	ABL08318	ABL15001	ABL11644	ABL18502	ABL15238	AAS55168	AAS54538	AAS52105	AAS55358	ABL11645	ABL18503	ABL08780	ABL08778	ABL02976	AAS95263	ABL09972
Escherichia coli p	melano	Escherichia coli p	Drosophila melanog	Corn cyclin delta-	Nucleotide sequenc	Human bone marrow	Arabidopsis thalia	Arabidopsis thalia	Arabidopsis thalia	polynu		Human immune/haema			Human single nucle	Human single nucle	Drosophila melanog							Drosophila melanog				a	la				Drosophila melanog	3	Drosophila melanog

ALIGNMENTS

```
AAV83698
Species-specific probe targeted to the internal transcribed spacer 2.
                                                   26-FEB-1999
                                                                                                                                                   AAV83698 standard; DNA; 21 BP
                                            (first entry)
```

Internal transcribed spacer 2; ITS2; probe; Aspergillus flavus; A. niger; A. terreus; A. nidulans; Fusarium solani; F. moniliforme; Mucor rouxii; M. racemosus; M. plumbeus; M. indicus; A. fumigatus; M. circinilloides f. circinelloides; Rhizopus oryzae; R. microsporus; R. circinans; R. stolonifer; Rhizomucor pusillus; Absidia corymbifera; Cunninghamella elegans; Pseudallesheria boydii; Scedosporium apiospermum; Penicillium notatum; Sporothrix schenkii; filamentous fungus; ss.

Synthetic. Fusarium solani.

```
01-MAY-1998;
                              Key
modified_base
          12-NOV-1998.
                WO9850584-A2
   98WO-US08926
                       /*tag= a
/note= "labelled with digoxigenin"
                                 Location/Qualifiers
```

```
RESULT
AAV70850
                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                         ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local :
                     Aidorevich L,
                                                                                                                                                                                     R. circinans; R. stolonifer; Rhizomucor pusillus; Absidia corymbifera; Cunninghamella elegans; Pseudallesheria boydii; Scedosporium apiosperm
                                                                                                                                                                                                        Internal transcribed spacer 2; ITS2; probe; Aspergillus flavus; A. niger; A. terreus; A. nidulans; Fusarium solani; F. moniliforme; Mucor rouxii; M. racemosus; M. plumbeus; M. indicus; A. fumigatus; M. circinilloides f. circinelloides; Rhizopus oryzae; R. microsporus;
                                                                  02-MAY-1997;
                                                                                         01-MAY-1998;
                                                                                                                                                          Fusarium solani.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (ITS2) region of various filamentous fungi (see AAV70845-73). The probes are species-specific, and can be used for identifying a speckes selected from Aspergillus flavus, A. fumigatus, A. niger, A. terreus, A. plumbeus, M. indicus, M. circinilloides f. circinelloides, Rhizopus pusillus, Absidia corymbifera, Cunninghamella elegans, Pseudallesheria boydii (teleomorph of Scedosporium apiospermum), Penicillium notatum, or filamentous fungal speckes from each other and from other medically important fungi.
                                             (USSH ) US DEPT
                                                                                                              12-NOV-1998
                                                                                                                                    W09850584-A2
                                                                                                                                                                                Penicillium notatum;
                                                                                                                                                                                                                                                                                                                       AAV70850;
                                                                                                                                                                                                                                                                                                                                            AAV70850 standard;
                                                                                                                                                                                                                                                                        Internal transcribed
                                                                                                                                                                                                                                                                                                26-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New nucleic acid probes for filamentous fungi - for detecting e.g. Aspergillus, Fusarium, Mucor, Rhizopus, Rhizomucor, Absidia, Cunninghamella, Pseudoallescheria boydii, Penicillium and Sporothr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         important fungi.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Example 1; Page 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Aidorevich L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (USSH ) US DEPT HEALTH & HUMAN SERVICES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-MAY-1997;
                                                                                                                                                                                                                                                                                                                                                                                               N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1999-034737/03
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                            (first entry)
                    Choi
                                                                 97US-0045400
                                                                                       98WO-US08926
                                        HEALTH & HUMAN SERVICES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Choi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      97US-0045400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ?
                                                                                                                                                                                                                                                                                                                                            DNA;
                     'Sr
                                                                                                                                                                                                                                                                       spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     45pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                       100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C; 4 G;
                    Morrison CJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                       .0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Morrison CJ,
                                                                                                                                                                                                                                                                                                                                                                                                 21
                                                                                                                                                                                                                                                                                                                                                                                                                      21
                                                                                                                                                                                                                                                                 2 (ITS2) and adjacent regions
                                                                                                                                                                                                                                                                                                                                           ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 21; DE
Pred. No. 0.2
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Reiss
                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 20
0.24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              20;
                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                          fungus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sporothrix
                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                   apiospermum;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                       0
```

```
RESULT
AAA61893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                 Disclosure; Page 14; 113pp; English.
                                                                                                                                                                                                                                                                         Ribosomal DNA; rDNA ITS region; internal transcribed spacer; ALLC / HIV integrase inhibitor; steroid compound; human immunodeficency virus; acquired immunodeficiency syndrome; AIDS; ARC; AIDS-related complex; symptomatic infection; asymptomatic infection; potential HIV exposure;
                                                                            WPI; 2000-431606/37.
                                                                                                                                                             14-DEC-1998;
                                                                                                                                                                                  09-DEC-1999;
                                                                                                                                                                                                                                                     Fusarium sp. MF6381.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         which are species specific. The specification also describes ITS2 sequence-derived probes for identifying a species selected from Aspergillus flavus, A. fumigatus, A. niger, A. terreus, A. nidulans, Fusarium solani, F. moniliforme, Nucor rouxil, M. racemosus, M. plumbeus, M. indicus, M. circinilloides f. circinelloides, Rhizomucor pusillus, Absidia corymbifera, Cunninghamella elegans, Pseudallesheria boydii (teleomorph of Scedosporium apiospermum), Penicillium notatum, or filamentous fungal species from each other and from other medically important fungi.
                                                                                                      Dombrowski
                                                                                                                                   (MERI ) MERCK & CO INC
                                                                                                                                                                                                          22-JUN-2000
                                                                                                                                                                                                                                                                                                                                                 Fusarium sp.
                                                                                                                                                                                                                                 WO200036132-A1
                                                                                                                                                                                                                                                                                                                                                                         14-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                AAA61893;
                                                                                                                                                                                                                                                                                                                                                                                                                     AAA61893 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New nucleic acid probes for filamentous fungi - for detecting e.g. Aspergillus, Fusarium, Mucor, Rhizopus, Rhizomucor, Absidia, Cunninghamella, Pseudoallescheria boydii, Penicillium and Sporothr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               222
                                      steroid compounds are HIV integrase inhibitors infection and \ensuremath{\mathsf{AIDS}} -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 ctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                            w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     adjacent
                                                                                                                SB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity 100.
21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Page
                                                                                                     Zink DL,
AW;
                                                                                                                                                                                                                                                                                                                                            MF6381 rDNA internal transcribed spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sequence represents an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B₽;
                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                           98US-0112168
                                                                                                                                                                                 99WO-US29356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77
                                                                                                                                                                                                                                                                                                                                                                                                                    DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     45pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;
                                                                                                              Hazuda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               represents an internal transcribed spacer 2 (1752)
Probes can be derived from the present sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96 C;
                                                                                                                                                                                                                                                                                                                                                                                                                     502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21
                                                                                                             Ď,
                                                                                                                                                                                                                                                                                                                                                                                                                    ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>ი</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                            Felock PJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                62 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0 other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20;
                                                                                                            Polishook
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                   used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                             (ITS)
                                                                                                            Ä
                                                for treating
                                                                                                                                                                                                                                                                                                                                             region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sporothrix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
```

The invention

relates

6

novel steroid

compounds

derived

from

the

0;

```
RESULT
AAV59009
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CC inhibitors of HIV integrase. The invention encompasses cultures of CC Fusarium sp. MF6381. The invention also relates to a composition CC comprising a compound of the invention in combination with an AIDS CC antiviral agent, an immunomodulator and an antiinfective agent. The CC compounds of the invention may be used in the inhibition of HIV CC integrase and in the prevention and treatment of HIV infection. A wide CC range of state of HIV infection may be treated: AIDS (acquired CC immunodeficiency syndrome); ARC (AIDS-related complex); both symptomatic CC and asymptomatic HIV infection; and actual or potential exposure to HIV. CC and asymptomatic HIV infection; and actual or potential exposure to HIV. CC compounds may be used to isolate HIV integrase mutants which are compounds may also be used to establish or determine the site at which CC compounds may also be used to establish or determine the site at which CC other antivirals bind to HIV integrase (e.g., by competitive inhibition). CC The present sequence represents the ribosomal DNA (rDNA) internal CC transcribed spacer (ITS) region of Fusarium sp. MF6381, which may be used CC transcribed spacer (ITS) region of Fusarium sp. MF6381, which may be used CC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                   Wheat pathogen internal transcribed spacer sequences - basis for primers for the species-specific polymerase detection of the pathogens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              F. avenaceum internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-JAN-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAV59009 standard; DNA; 561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 502 BP; 127 A; 144 C; 118 G; 113 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         African soil fungus Fusarium sp. MF6381 (ATCC 74469) which act as inhibitors of HIV integrase. The invention encompasses cultures o
                                                                                                                                                                                                                                                                                              01-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
              Claim 1; Column 29-30; 20pp; English
                                                                                                                                       WPI; 1998-593995/50.
                                                                                                                                                                                                                                                         01-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                           US5827695-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fusarium avenaceum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  fungal pathogen identification;
                                                                                                                                                                                                             (NOVS ) NOVARTIS FINANCE CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Internal transcribed spacer; ITS; Microdochium; Fusarium; wheat pathogen; fungal pathogen identification; infection identification; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  410 ctaacacctcgcaactgga 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity nes 19; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 ctaacacctcgcaactgga 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      characterise MF6381.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                         97US-0905314
                                                                                                                                                                                                                                                                                              97US-0905314.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag= a
/note= "ITS1"
339.504
                                                                                                                                                                                                                                                                                                                                                                                                                /*tag= b
/note= "ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    90.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 19;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              spacer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 21; Length 502; 3.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels

    used
    chain

                                                                            reaction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
```

```
RESULT AAC37182 ID AAC37182 ID AAC37182 ID AAC3 XX AAC3 XX Hybr KW Prot KW Prot KW Prot KW Prot KW Prot CXX Arak XX Epil (XX Epil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
  25-FEB 1999
05-MAR 1999
09-MAR 1999
23-MAR 1999
25-MAR 1999
26-APR 1999
06-APR 1999
08-APR 1999
11-APR 1999
21-APR 1999
21-APR 1999
23-APR 1999
23-APR 1999
23-APR 1999
24-APR 1999
26-APR 1999
27-APR 1999
28-APR 1999
29-APR 1999
21-APR 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This sequence represents an internal transcribed spacer (ITS) sequence of the invention. The primer pairs, based on the ITS sequences, are used in the PCR amplification detection of wheat Microdochium and Fusarium fungipathogens, especially M. nivale, F. graminearum, F. culmorum, F. avenaceum, F. poae, F. moniliforme or F. roseum. The two different strains of fungi show different symptoms during infection, which may or may not be due to infection. Early identification of the strain causing the infection allows early, and more specific fungicidal treatment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hybridisation assay; genetic mapping; gene expressio protein identification; signal transduction pathway;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAC37182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAC37182 standard; DNA; 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 561 BP; 145 A; 152 C; 135 G; 126 T; 3 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Arabidopsis thaliana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        metabolic pathway; promoter; termination sequence; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Arabidopsis thaliana DNA fragment SEQ ID NO: 16470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              445 ctaacacctcgcaactgga 463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 ctaacacctcgcaactgga 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000EP-0301439
99US-0132485.
99US-0132486.
99US-0132486.
99US-0132863.
99US-0134256.
99US-0134219.
99US-0134219.
99US-0134271.
99US-0134376.
99US-0134376.
99US-0133941.
99US-0133941.
                                                                                                                                                                                                                                                                                                    99US-0131449.
99US-0132048.
99US-0132407.
99US-0132484.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0126264.
99US-0126785.
99US-0127462.
                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0130449.
99US-0130510.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0129845.
99US-0130077.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-0128234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0123180
99US-0123548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0121825
                                                                                                                                                                                                                                                                                                                                                                                                           9905-0130891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0128714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0125788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        90.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 19;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene expression control;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 19;
. 3.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 561;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    are used for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
```

	9 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7			ק ק ק ק ק ק ק ק ק ק ק ק ק ק ק ק ק ק ק
22-JUL 23-JUL 23-JUL 23-JUL 26-JUL 27-JUL 27-JUL 27-JUL 28-JUL	19-JUL- 19-JUL- 20-JUL- 20-JUL- 21-JUL- 21-JUL- 21-JUL- 22-JUL- 22-JUL- 22-JUL-	02-301- 06-301- 08-301- 12-301- 13-301- 15-301- 16-301- 19-301- 19-301- 19-301-	18-JUN- 18-JUN- 18-JUN- 18-JUN- 18-JUN- 18-JUN- 18-JUN- 18-JUN- 18-JUN- 23-JUN-	
01451 01451 01452 01452 01459 01459)1443)1443)1446)1446)1448)1448)1450)1450)1450	99US-0142055 99US-0142390 99US-0142803 99US-0142977 99US-0143542 99US-0143624 99US-0144005 99US-0144085 99US-0144085 99US-0144085 99US-0144085 99US-0144331 99US-0144331 99US-0144333	13946 13946 13946 13946 13946 13975 13975 13976 14035 14035 14089 14089	99US-0135353. 99US-0136629. 99US-0136392. 99US-0137722. 99US-0137522. 99US-0137502. 99US-0137502. 99US-0138094. 99US-0138847. 99US-0138847. 99US-0138847. 99US-0138847. 99US-0139452. 99US-0139453. 99US-0139454. 99US-0139454. 99US-0139454. 99US-0139454. 99US-0139456. 99US-0139457.
PR R PR	אס אס אס אס אס אס אס אס אס אס אס אס אס א	מ א ק ק ק ק ק ק ק ק ק ק ק ק ק ק א א א א א	ת ה א ה ה ה ה ה ה ה ה ה ה ה ה ה ה ה ה א א א א	ק ה א ה ה ה ה ה ה ה ה ה ה ה ה ה ה ה ה ה ה
	100000000000000000000000000000000000000	19911991199119911991199119911991199119	0-AUG-19; 3-AUG-19; 5-AUG-19; 6-AUG-19; 7-AUG-19; 7-AUG-19; 7-AUG-19; 7-AUG-19; 7-SEP-19; 7-SEP-19; 8-SEP-19; 8-SEP-19; 8-SEP-19; 8-SEP-19;	02-AUG-1999 02-AUG-1999 03-AUG-1999 04-AUG-1999 04-AUG-1999 05-AUG-1999 05-AUG-1999 06-AUG-1999 06-AUG-1999 06-AUG-1999 10-AUG-1999 11-AUG-1999 11-AUG-1999 13-AUG-1999 13-AUG-1999 14-AUG-1999 15-AUG-1999 17-AUG-1999 17-AUG-1999 17-AUG-1999 17-AUG-1999 18-AUG-1999 19-AUG-1999 19-AUG-1999 19-AUG-1999 10-AUG-1999 10-AUG-1999 10-AUG-1999 10-AUG-1999 10-AUG-1999 10-AUG-1999 10-AUG-1999 10-AUG-1999 10-AUG-1999 10-AUG-1999
00000000000000000000000000000000000000	S066 S066 S066 S066 S066 S066 S066 S066	- SD66 -	Sn66 Sn6	
222222222	22222222222	0155139 0155685 0156458 0156458 0156596 01577117 0157753 0158232 0158232 0158232 0158232 0158232	1149929 1149930 1150566 1150884 1151085 1151080 115133 115133 115133 115133 115133 1153363 1153370 1153370	\$-0146388 \$-0147038 \$-0147204 \$-0147204 \$-0147260 \$-0147260 \$-0147260 \$-0147363 \$-014743 \$-014743 \$-014743 \$-014743 \$-0148319 \$-0148319 \$-0148319 \$-01483684 \$-0149723 \$-0149175 \$-0

```
RESULT
AAC45891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PR
PR
PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Ma
Best Loc
Matches
 25-FEB 1999
05-MAR 1999
09-MAR 1999
23-MAR 1999
25-MAR 1999
26-MAR 1999
16-APR 1999
16-APR 1999
17-APR 1999
27-APR 1999
27-APR 1999
27-APR 1999
28-APR 1999
28-APR 1999
29-APR 1999
20-APR 1999
21-APR 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28-OCT-1999;
28-OCT-1999;
28-OCT-1999;
29-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hybridisation assay; genetic mapping; gene expression protein identification; signal transduction pathway; metabolic pathway; promoter; termination sequence; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAC45891;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   25-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAC45891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ch 81.0%; So I similarity 100.0%; I similarity 100.0%; I 7; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000EP-0301439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first
 990S-012380

990S-012380

990S-0125788

990S-012624

990S-012762

990S-012824

990S-012824

990S-0130047

990S-0130449

990S-0130449

990S-0132048

990S-0132048

990S-0132484

990S-0132484

990S-0132487

990S-0132487

990S-0132487

990S-0132476

990S-0134218

990S-0134218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0161920.
99US-0161992.
99US-0161993.
99US-0162142.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 17; DB; Pred. No. 35; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                35;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 510;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
   04-JUN-1999
08-JUN-1999
110-JUN-1999
110-JUN
9908-0137502
9908-013840
9908-013840
9908-013840
9908-0139452
9908-0139453
9908-0139453
9908-0139459
9908-0139459
9908-0139450
9908-0139450
9908-0139460
9908-0139461
9908-0139461
9908-0140853
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0143342
9908-0144332
9908-0144333
9908-0144333
9908-0144333
9908-0144333
9908-0144333
9908-0144333
9908-0145085
9908-0146386
9908-0146386
9908-0146386
9908-0146386
9908-0146386
9908-0146386
9908-0146386
9908-0146386
9908-0146386
9908-0146386
9908-0146386
```

```
Query Match
Best Local Similarity
                           10-SEP-1999
11-SEP-1999
15-SEP-1999
16-SEP-1999
20-SEP-1999
22-SEP-1999
23-SEP-1999
24-SEP-1999
25-SEP-1999
26-OCT-1999
06-OCT-1999
07-OCT-1999
07-OCT-1999
11-OCT-1999
11-OCT-1999
11-OCT-1999
11-OCT-1999
11-OCT-1999
12-OCT-1999
12-OCT-1999
13-OCT-1999
13-OCT-1999
13-OCT-1999
14-OCT-1999
12-OCT-1999
12-OCT-1999
13-OCT-1999
13-OCT-1999
13-OCT-1999
14-OCT-1999
14-OCT-1999
15-OCT-1999
16-OCT-1999
17-OCT-1999
18-OCT-1999
18-OCT-1999
18-OCT-1999
19-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                         13 - AUG - 1999

16 - AUG - 1999

16 - AUG - 1999

17 - AUG - 1999

20 - AUG - 1999

23 - AUG - 1999

23 - AUG - 1999

25 - AUG - 1999

26 - AUG - 1999

27 - AUG - 1999

28 - AUG - 1999

29 - AUG - 1999

30 - AUG - 1999

31 - AUG - 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              06-AUG-1999;
06-AUG-1999;
09-AUG-1999;
09-AUG-1999;
09-AUG-1999;
10-AUG-1999;
11-AUG-1999;
12-AUG-1999;
                          9908-0156458
9908-0157753
9908-0157753
9908-0158023
9908-0158023
9908-0158232
9908-0158233
9908-0158233
9908-0159294
9908-0159294
9908-0159295
9908-0159331
9908-0159331
9908-0159331
9908-0160767
9908-0160767
9908-0160767
9908-0160768
9908-0160768
9908-0160767
9908-0160768
9908-0160769
9908-0160769
9908-0160763
9908-0160763
                                                                                                                                                                                                                                                                                                                                                  990S-0147416

990S-0147433

990S-0147935

990S-0148341

990S-0148341

990S-0148341

990S-0149368

990S-0149175

990S-0149723

990S-0149723

990S-0149902

990S-0149902

990S-0150566

990S-015066

990S-0150684

990S-01510884

990S-0151088
81.0%;
Score 17;
pred. No.
DB 21;
41;
         Length 2706;
                                                     RESULT
ABL09973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
ABA82622
                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                        뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ū
```

```
Z Z X Z X E
                                                                                                                                                                                                                        Query Match
Best Local S
Matches 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                          25831 ctagcacctctcaactggaca 25851
                                                                                                                                                                                                                                                                                                                                 The present invention describes the human Zmax1 gene and the high bone mass (HBM) gene, which are found on chromosome 11q13.3. The Zmax1 and HBM genes have osteopathic activities. The genes can be used in gene therapy, antisense therapy and in the production of vaccines. They can be used in the diagnosis and treatment of bone disorders including osteoporosis, Paget's disease, Sclerostosis, osteomalacia and fibrous dysplasia. ABA82038 to ABA82700 and AAG68168 to AAG68193 represent sequences used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; high bone mass; HBM gene; Zmaxl gene; chromosome 11; 11q13. sequence tagged site; STS; osteoporosis; osteopathic; gene therapy antisense therapy; vaccine; bone disorder; Paget's disease; sclerostosis; osteomalacia; fibrous dysplasia; ds.
               26-MAR-2002
                                              ABL09973;
                                                                             ABL09973
                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Carulli JP, Little RD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              05-APR-2000;
05-APR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human HBM gene region b527d12-h_contig308G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABA82622;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABA82622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 modulating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New high
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (GENO-) GENOME THERAPEUTICS CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200177327-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 ctaacacctcgcaactggaga
                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2001-657171/75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17;
                                                                                                                                                                                                                         1 Similarity
18; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 bone mass (HBM) ng bone mass for
                                                                             standard;
                                                                                                                                                                                                                                                                                                       33769 BP; 8178 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         standard; DNA; 33769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Page 237-257; 443pp; English
                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0543771.
2000US-0544398.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000WO-US16951
             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                              CDNA;
                                                                                                                                                                                                                                       77.18;
85.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                              1399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and Zmax1 genes and the treatment of e.g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Recker RR,
                                                                                                                                                                                                                                                                                                        10222 C; 8617 G;
                                                                                                                                                                                        21
                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                        Score 16.2;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ВP
                                                                             ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Johnson
                                                                                                                                                                                                                                     .3e+02;
                                                                                                                                                                                                                                                         DB
                                                                                                                                                                                                                                                                                                        6749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d proteins useful for .g. osteoporosis -
                                                                                                                                                                                                                                                      22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                        Τ,
                                                                                                                                                                                                                                                      Length 33769;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                        w
                                                                                                                                                                                                                                                                                                        other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            therapy;
                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0,
                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
```

0

Drosophila melanogaster expressed

polynucleotide SEQ

ID NO

24401.

```
RESULT
ABLU2977
ID ABLU
XX ABLU
AC ABLU
XX ABLU
XX Dros
XX Dro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         capable of detecting 1000 more genes from Drosophila. The inventuageful in developmental biology and in elucidating cell signalling cell-cell interactions in higher eukaryotes for the development of insectificities, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABLIG176-ABLIG171), expressed DNA sequences (ABLIG1840-ABLIG175) and the encoded proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pharmaceutical;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; SEQ ID NO 24401; 21pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New isolated nucleic acid genes from Drosophila and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-656860/75
P-PSDB; ABB65870.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23-MAR-2000;
11-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           27-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200171042-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drosophila melanogaster
                                                                                                                                                      Drosophila melanogaster
                                                                                                                                                                                                                                 Drosophila;
                                                                                                                                                                                                                                                                             Drosophila
                                                                                                                                                                                                                                                                                                                                 26-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                               ABL02977;
                                                                                                                                                                                                                                                                                                                                                                                                                                 ABL02977 standard; cDNA; 1815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1399 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Venter JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (PEKE ) PE CORP NY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23-MAR-2001; 2001WO-US09231
     23-MAR-2001; 2001WO-US09231
                                                                                                                                                                                                       pharmaceutical;
                                                      27-SEP-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        75 tgacaccccgcaactggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 taacacctcgcaactggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 Similarity
17; Conserv
                                                                                                                                                                                                                                                                             melanogaster expressed polynucleotide SEQ ID NO 3413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Adams M,
                                                                                                                                                                                                                                 developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   developmental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-191637P
2000US-0614150
                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 387 A; 361 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            75.2%;
89.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Li
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PWD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   biology;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   detection reagent for detecting 1000 for elucidating cell signalling and c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 15.8; DB 23
Pred. No. 1.6e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                      ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Myers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 338 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cell signalling;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 313 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      insecticide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                invention
alling and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0 or more cell-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
```

```
ACC CANADA CANAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABLIG176-ABL30511), expressed DNA sequences (ABLIG175) and the encoded proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Drosophila; developmental biology; cell signalling; insecticide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABL09972 standard; cDNA; 3399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from at ftp.wlpo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New isolated nucleic a
genes from Drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-656860/75.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Venter JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (PEKE ) PE CORP NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23-MAR-2000; 2000US-191637P.
11-JUL-2000; 2000US-0614150.
                                                 WPI; 2001-656860/75.
P-PSDB; ABB65869.
                                                                                                                                                                                                                                   23-MAR-2000;
11-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                       27-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                         WO200171042-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              pharmaceutical;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Drosophila melanogaster expressed polynucleotide SEQ ID NO 24398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABL09972;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1815 BP; 462 A; 488 C; 557 G; 308 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P-PSDB;
                                                                                                                                                                                                                                                                                                                23-MAR-2001;
                                                                                                                                                                               (PEKE ) PE CORP NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (ABB57737-ABB72072)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 559 agcacatcgcaactggaga 577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 aacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 Similarity
17; Conser
                                                                                                                                 JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO 3413; 21pp +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Adams M,
                                                                                                                                 Adams
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                   2000US-191637P
2000US-0614150
                                                                                                                                                                                                                                                                                                                   2001WO-US09231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene;
                                                                                                                              X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 acid
a and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         75.2%;
89.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7
                                                                                                                              Ę
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PWD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21
                                                                                                                                 PWD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              detection reagent for detecting for elucidating cell signalling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 15.8; DB 23;
Pred. No. 1.6e+02;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Myers
                                                                                                                              Myers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence Listing;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E
                                                                                                                                 뛽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1815;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1000 or more
and cell-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WIPO
```

0

ş

New isolated nucleic

acid

detection

reagent for detecting 1000 or

```
RESULT 1
AAS95263
ID AAS9
XX AAS9
XX AAS9
XX Long
XW Long
XW Long
XW Genc
XX G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL016176) and the encoded proteins
protein, located between LTR sequences. The element can insert into the genome of the cell in the presence of an appropriate integration factor. The integration factor comprises an integrate which preferably is itself included in the transposable element, the integrase being derived from
                                                                                           The invention relates to long terminal repeat (LTR) retrotransposons isolated from Candida albicans. LTR retrotransposons are useful for introducing DNA into the genome of a cell, which involves introducing transposable element comprising a nucleotide sequence encoding a desir
                                                                                                                                                                                                                                                               albicans, userur r
assign a function
                                                                                                                                                                                                                                                                  Novel long terminal repeat retrotransposon isolated fralbicans, useful for introducing DNA into genome of a assign a function to the nucleic acid sequence -
                                                                                                                                                                                                                                                                                                                                                                          WPI:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (JANC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Candida albicans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pnod
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The sequence data for this patent did not form part of the specification, but was obtained in electronic format direct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim
                                                                                                                                                                                                                      Claim 1; Fig 7; 119pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                        Nelissen BJM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-APR-2000; 2000WO-IB00729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-APR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200181598-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Long terminal repeat transposon; LTR retrotransposon; ss; integrase; transposable element; integration factor; POL region; pCal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAS95263;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 3399 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             genes from Drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAS95263 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        interactions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (ABB57737-ABB72072)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 taacacctcgcaactggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               disruption
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tgacaccccgcaactggag
                                                                                                                                                                                                                                                                                                                                                                        2002-041412/05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ) JANSSEN PHARM NV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   l Similarity
17; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2001WO-EP04649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat
                                                                                                                                                                                                                                                                                                                                                                                                                        De
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  system
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NO 24398;
                                                                                                                                                                                                                                                                                                                                                                                                                        Backer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          75
89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (LTR) retrotransposon #14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Α.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1093
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         838
                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ç;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          elucidating
                                                                                                                                                                                                                                                                                                                                                                                                                        Luyten WHM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15.8;
No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.7e+02;
2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cell signalling and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of the printed directly from
                                                                                                                                                                                                                                                                                              cell and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3399;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cell-cell
                                                                                                                                                                                                                                                                                              ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                 desired
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
```

Query Match

75

. 28;

15

. 8

DΒ

23;

Length 3947;

Sequence

3947

B₽;

1158

Ą

884 C;

940 G;

965 T; 0 other;

format

part of the

of the printed directly from

from

WIPO

specification,

itp.wipo.int/pub/published_pct_sequences sequence data for this patent did not form ification, but was obtained in electronic i

```
88888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                   capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL01840-ABL16175) and the encoded proteins (ABD1737-ABB72072).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the POL region of the pCal retrotransposon. This is useful for assigning a function to a nucleotide sequence which involves inserting the sequence between the long term repeats, introducing the element into the cell and monitoring it for the presence of an altered phenotype of the cell. The method is useful in a gene disruption system or a gene discovery system. Sequences AAS95250-AAS95310 represent LTR retrotransposons of the
                                                                                                                                                          Claim 1; SEQ ID NO 3410;
                                                                                                                                                                                          New isolated nucleic a
                                                                                                                                                                                                                                                                                                                                                                                                              Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                     pharmaceutical;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Drosophila melanogaster expressed polynucleotide SEQ ID NO 3410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABL02976 standard; cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1236 taacacctcgaaactgaag 1254
                                                                                                                                    The invention relates
                                                                                                                                                                                  interactions
                                                                                                                                                                                                                                                               Venter
                                                                                                                                                                                                                                                                                     (PEKE ) PE CORP NY
                                                                                                                                                                                                                                                                                                          23-MAR-2000;
11-JUL-2000;
                                                                                                                                                                                                                                                                                                                                             23-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                    27-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                          WO200171042-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Drosophila;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABL02976;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 3405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 taacacctcgcaactggag
                                                                                                                                                                                                                             2001-656860/75.
DB; ABB58873.
                                                                                                                                                                                                                                                               JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                              Adams
                                                                                                                                                                                                                                                                                                                                                                                                                                                developmental biology; cell signalling; insecticide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                          2000US-191637P
2000US-0614150
                                                                                                                                                                                                                                                                                                                                             2001WO-US09231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BP; 1199
                                                                                                                                                                                                                                                                                                                                                                                                                                     gene;
                                                                                                                                                                                                                                                              X
                                                                                                                                                                                            e acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        75.2%;
89.5%;
                                                                                                                                  to an isolated nucleic acid detection
                                                                                                                                                                                                                                                               Ľ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2
                                                                                                                                                                                                                                                               PWD,
                                                                                                                                                         21pp +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         504
                                                                                                                                                                                        detection reagent for detecting for elucidating cell signalling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ВP
                                                                                                                                                                                                                                                              Myers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                         Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          No.
                                                                                                                                                                                                                                                              EE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      G; 1043 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .
....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3405;
                                                                                                                                                                                                     1000
                                                                                                                                                                                            and
                                                                                                                                   reagent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                          cell-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                        is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

```
RESULT 1
ABL08780
ID ABL0
XX
                                                                                                                             밁
                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 1
ABL08778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                            Query Match
Best Local
                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity 89.9
Matches 17; Conservative
                                                                                                                                                                   The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL01840-ABL16175) and the encoded proteins
         ABL08780 standard;
                                                                                                                             Sequence
                                                                                                                                                    The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from
                                                                                                                                                                                                                                              Claim 1; SEQ ID NO 20816; 21pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1559
                                                                                                                                                                                                                                                                          New isolated nucleic acid
genes from Drosophila and
                                                                                                                                                                                                                                                                                                                                            (PEKE ) PE CORP NY.
                                                                                                                                                                                                                                                                                                                                                             23-MAR-2000;
11-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                      27-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                     Drosophila melanogaster.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABL08778 standard; cDNA; 4394
                                                                                                                                                                                                                                                                                                    P-PSDB; ABB64675
                                                                                                                                                                                                                                                                                                                             Venter
                                                                                                                                                                                                                                                                                                                                                                                      23-MAR-2001; 2001WO-US09231
                                                                                                                                                                                                                                                                                                                                                                                                                       WO200171042-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                       pharmaceutical;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Drosophila melanogaster expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-MAR-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABL08778;
                                                     208
                          14
                                                          2 taacacctcgcaactggag 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13
                                                                                                                                            ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3 aacacctcgcaactggaga 21
                                                  tgacaccccgcaactggag
                                                                                                                                                                                                                                                                                                           2001-656860/75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         agcacatcgcaactggaga 1577
                                                                                   17; Conservative
                                                                                                                                                                                                                                                                                                                            JC,
                                                                                                                             4394
                                                                                                                                                                                                                                                                                                                           Adams M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                       developmental biology; cell signalling; insecticide;
cal; gene; ss.
                                                                                                                                                                                                                                                                                                                                                             2000US-191637P.
2000US-0614150.
                                                                                                                           BP; 1217 A; 1007 C; 1015 G; 1155 T; 0
          CDNA;
                                                                                            75.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  89.5%;
                                                                                                                                                                                                                                                                                                                           ŗ
          4763
                                                   226
                                                                                                                                                                                                                                                                                                                           PWD,
                                                                                                                                                                                                                                                                         detection reagent for detecting 1000 or more for elucidating cell signalling and cell-cell
                                                                                   Score 15.8; D
Pred. No. 1.8e
0; Mismatches
                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred
          ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BP
                                                                                                                                                                                                                                                                                                                           Myers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               polynucleotide SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . No. 1.8e+02; ismatches 2;
                                                                                                                                                                                                                                                                                                                            EW;
                                                                                            8e+02;
                                                                                                    DB
                                                                                                   23;
                                                                                   Indels
                                                                                                   Length 4394;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                           other;
                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                     WIPO
                                                                                                                                                                                                                       İs
                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
밁
                                                                                                                                                                   γ
```

```
RESULT 15
ABL18503/c
ID ABL185
                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                            4132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        capable of detecting 1000 or more genes from prosophila. The inventional capable of detecting 1000 or more genes from prosophila. The inventional capable of the capable of the capable of the development of the capable of the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL01840-ABL16175) and the encoded proteins (ABB57737-ABB72072).
Drosophila melanogaster
                                       pharmaceutical;
                                                                                     Drosophila melanogaster genomic polynucleotide SEQ ID NO 6982.
                                                                                                                                                                        ABL18503;
                                                                                                                                                                                                          ABL18503 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; SEQ ID NO 20822; 21pp + Sequence Listing; English.
                                                                                                                               26-MAR-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 4763 BP; 1170 A; 1167 C; 1147 G; 1279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to an isolated nucleic acid detection reagent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New isolated nucleic a
genes from Drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The sequence data for t
specification, but was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2001-656860/75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Venter JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23-MAR-2000;
11-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Drosophila; developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23-MAR-2001; 2001WO-US09231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200171042-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     pharmaceutical; gene; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Drosophila melanogaster expressed polynucleotide SEQ ID NO 20822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABL08780;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     interactions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (PEKE ) PE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-MAR-2002
                                                                                                                                                                                                                                                                                                                        2 taacacctcgcaactggag 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                  tgacaccccgcaactggag 4150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORP NY.
                                                 developmental biology; cell signalling; insecticide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Adams M,
                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000US-191637P.
2000US-0614150.
                                     gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              for this patent did not form was obtained in electronic f
                                                                                                                                                                                                          DNA; 989
                                                                                                                                                                                                                                                                                                                                                                                                   75.2%;
89.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     acid
a and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PWD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               detection reagent for detecting for elucidating cell signalling
                                                                                                                                                                                                          ВP
                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                   Score 15.8;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Myers EW;
                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                               .8e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                     DВ
                                                                                                                                                                                                                                                                                                                                                                                                                 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                n part of the printed format directly from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             T; 0
                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                 Length 4763;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1000
                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cell-cell
                                                                                                                                                                                                                                                                                                                                                                           Caps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    is
```

W0200171042-A2

```
Search completed: August 21, Job time: 5791 sec
                                                                                     g
                                                                                                                   ş
                                                                                                                                              Query Match 73.3
Best Local Similarity 94.1
Matches 16; Conservative
                                                                                                                                                                                                                                                              The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention i useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL1016-ABL30511), expressed DNA sequences (ABL0187) and the encoded proteins (ABB57017-ABB72072).

(ABB57017-ABB72072).

The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1; SEO ID NO 6982; 21pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signalling and cell-cell interactions - \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23-MAR-2000; 2000US-191637P.
11-JUL-2000; 2000US-0614150.
                                                                                                                                                                                                                                   Sequence 989 BP; 228 A; 245 C; 234 G; 282 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Venter JC, Adams M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-MAR-2001; 2001WO-US09231.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2001-656860/75.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (PEKE ) PE CORP NY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                27-SEP-2001.
                                                                                4 acacctcgcaactggag 20
||||||||||||
191 ACACCTCGCAGCTGGAG 175
                                                                                                                                                                 73.38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Li PWD,
                2002, 22:22:51
                                                                                                                                                 Score 15.4; DB 23;
Pred. No. 2.5e+02;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Myers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EW;
                                                                                                                                                 Indels
                                                                                                                                                                                Length 989;
                                                                                                                                                 0
                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                       is
                                                                                                                                                 0;
```

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                     Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OM nucleic - nucleic search, using sw model
                                                                          o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scoring table:
                                          o
                                                                                                                                      c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Searched:
                                                                                                                                                                          O
      10
11
12
13
14
15
                                                                                                                                                                                                                                                                                                                                                                                                                                               Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                   Score
    Query
Match Length DB
    10:
112:
12:
14:
15:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      August 21, 2002, 21:32:27; Search time 5019.06 Seconds (without alignments) 56.472 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                13736207 seqs, 6748477542 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-046-955-51
21
1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  em_estro:*
em_htc:*
gb_est1:*
gb_est2:*
gb_htc:*
gb_gss:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      em_estov:*
em_estpl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            em_gss_hum: *
em_gss_inv: *
em_gss_pln: *
em_gss_vrt: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   em_estba:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               em_estmu:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               em_estin: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 em_esthum:*
    362
458
552
610
972
1321
174
300
3760
380
380
380
380
380
380
587
587
    10
10
10
10
10
10
11
12
                                                                                                                                                      BE070797

A A 20131211

BM440563

CNS0777Y

BI490849

AT011540

AV191390
  0 BJ154339
0 BJ125969
0 BJ125969
AW582687
AU218666
0 BF619904
2 BH064238
2 BH061459
2 BH061459
                                                                                                                                                                                                                                                                                                                                                     IJ
                                                                                                                                                                                                                                                                                                                                                                                                             SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27472414
BE070797 RC3-BT050
AQ681735 HS_212_A
AZ191211 SP_1019_A
AZ191211 SP_1019_A
BM440563 pgr1n.pk0
AL432356 T7 end of
BI490849 603031810
AT001540 AT001540
AV191390 AV179460
AV191390 AV179460
AV191390 AV179460
AV191390 BJ154339
BJ154339 BJ154339
BJ152969 BJ154333
BJ152969 BJ15434
BJ152969 BJ152969
BJ
                                                                                                                                                                                                                                                                                                                                                 Description
```

G	C	ဂ	O			0	O	ი			ი	O	O	O	O	G	O	O		O		O	O		O		O
5	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18
16.2	16.2	16.2	16.2		16.2					16.2					16.2		16.2		16.2		16.2					16.2	
77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1
3073	1903	1559	1519	1101	998	974	839	803	659	648	579	5 4)	521	513	497	494	492	452	439	437	430	349	326	293	293	266	252
11					10						12						12					12				9	
AK004854	AK015469	в1160925	AW727720	CNS00CZ5	BG622763	BI415029	BG872601	BG285094	BE198784	AG106800	A2965522	AL601781	AW701534	AA530317	AQ138222	W45853	AQ585499	BF320988	AW081834	AA840330	AQ836420	AQ013861	AQ260963	BB572305	вв089128	AV043034	AZ468148
AK004854 Mus muscu	AK015469 Mus muscu	BI160925 602865494	AW727720 GAEa001	AL059720 Drosophil	BG622763 602647550	BI415029 602990432	BG872601 602793650	-	BE198784 ug82e05.y	AG106800 Pan trogl	AZ965522 2M0235H10			<	AQ138222 HS_3074_B	W45853 mc77g04.rl	AQ585499 RPCI-11-4	BF320988 uz58a02.y	AW081834 xb55g03.x	<	AQ836420 HS_5367_A	AQ013861 RPCI11-23	w	BB572305 BB572305	BB089128 BB089128	AV043034 AV043034	AZ468148 1M0281F02

ALIGNMENTS

FEATURES source		JOURNAL MEDLINE COMMENT	TITLE	SOURCE SOURCE ORGANISM REFERENCE AUTHORS	RESULT 1 BE070797 LOCUS DEFINITION ACCESSION VERSION KEYMORDS
High quality sequence start: 28 High quality sequence stop: 362. Location/Qualifiers 1362 /organism="Homo sapiens"	Tel: +55-11-2704922 Tel: +55-11-2704922 Fax: +55-11-2707001 Email: asimpson@ludwig.org.br Email: asimpson@ludwig.org.br This sequence was derived from the FAPESP/LICR Human Cancer Genome Project. This entry can be seen in the following URL (http://www.ludwig.org.br/scripts/gethtml2.pl?tl~st2~RC3-BT0502-251 199-011-b126t3=1999-11-254t4-1)	Proc. Natl. Acad. Sci. U.S.A. 97 (7), 3491-3496 (2000) 20202663 Contact: Simpson A.J.G. Laboratory of Cancer Genetics Ludwig Institute for Cancer Research Rua Prof. Antonio Prudente 109, 4 andar, 01509-010, Sao Paulo-SP,	Nagai,M.A., da Silva,W. Jr., Zago,M.A., Bordin,S., Costa,F.F., Goldman,G.H., Carvalho,A.F., Matsukuma,A., Baia,G.S., Simpson,D.H., Brunstein,A., deOliveira,P.S., Bucher,P., Jongeneel,C.V., O'Hare,M.J., Soares,F., Brentani,R.R., Reis,L.F., de Souza,S.J. and Simpson,A.J. Shotgun sequencing of the human transcriptome with ORF expressed sequence tags	human. human. human. Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Eukaryota; Metazoa; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 362) 1 (bases 1 to 362)	BE070797 362 bp mrNA linear EST 09-JUN-2000 RC3-BT0502-251199-011-b12 BT0502 Homo sapiens cDNA, mRNA sequence. BE070797 BE070797.1 GI:8415443

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT
AQ681735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
      Query Match
Best Local S
Matches 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ouery Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 ctaacacctcgcaactggag 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTAACTTCTCGCAACTGGAG 58
      l Similarity
18; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Email: |washington.edu
Clones may be purchased from Research Genetics (info@resgen.com).
BAC end Web Server: http://www.htsc.washington.edu
Plate: 2142 row: I column: 8
Seq primer: M13 Reverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    401 Queen Anne Avenue North, Seattle, WA 98109, USA
Tel: (206) 616-3618
Fax: (206) 616-3887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence-tagged connectors: A sequence approach to mapping and scanning the human genome Proc. Natl. Acad. Sci. U. S. A. 96 (17), 9739-9744 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A0681735

458 bp DNA linear GSS 28-JUN-19: HS_2142_A2_E04_MR CIT Approved Human Genomic Sperm Library D Homo septiens genomic clone Plate=2142 Col=8 Row=1, DNA sequence. A0681735
A0681735.1 GI:5257718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  High quality sequence stop: 458
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 High Throughput Sequencing Center
University of Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Class: BAC ends
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Mahairas GG, Wallace JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mahairas,G.G., Wallace,J.C., Smith,K., Swartzell,S., Holzman,T., Keller,A., Shaker,R., Furlong,J., Young,J., Zhao,S., Adams,M.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 458)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                            114
          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          82
                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ۵
                                                                                                                                                                                                                                        /note="Organ: sperm;
E-Coli DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note-*Organ: breast; Vector: puc18; Site_1: SmaI; Site_2: SmaI; A mini-library was made by cloning products derived from ORESTES PCR (U.S. Letters Patent application No. 196.,716 - Ludwig Institute for Cancer Research) profiles into the pUC 18 vector. Reverse transcription of tissue mRNA and cDNA amplification were performed under low stringency conditions. The public of the p
                                                                                                                                                                                                                                                                                                                                   /clone="Plate=2142 Col=8 Row=I"
/clone_lib="CIT Approved Human Genomic Sperm Library D"
                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                              /sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /db_xref="taxon:9606"
/clone_lib="BT0502"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /dev_stage="Adult"
                               90.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                90.0%;
                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                  Score 16.8; DB 12; Pred. No. 5e+02;
                                                                                                                                                                                                      106 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 16.8; DB 9;
Pred. No. 4.6e+02;
      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                    Vector: pBeloBAC11; BAC
                                                                                                                                                                                                      109 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hood L
      2;
                                                                  Length 458;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 362;
      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                      others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GSS 28-JUN-1999
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                    Clones in
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
```

ş

밁

```
ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
AZ191211
                                                                                   SOURCE
                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                          LOCUS
                                                                                                                                                                                                                                                                                                                                                      BM440563
                                                                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FOCUS
                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                407 CTAGCACCTCGNATCTGGAGA 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 ctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTAACACCTTGCAACTGTAG 458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ctaacacctcgcaactggag
                                                                                                                                                                                                      BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM440563
BM4603
BM440563
BM440563
BM4603
BM
Gallus gallus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    l Similarity
18; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Strongylocentrotus purpuratus.
Strongylocentrotus purpuratus.
Eukaryota, Metazoa, Echinodermata; Eleutherozoa;
Echinoidea; Euechinoidea; Echinacea; Echinoida;
Strongylocentrotidae; Strongylocentrotus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AZ191211 552 bp DNA linear GSS 30-AU
SP_1019_A1_A04_SP6E Strongylocentrotus purpuratus, purple sea
urchin, sperm genomic BAC library Strongylocentrotus purpuratu
genomic clone Plate=1019 Col=7 Row=A, DNA sequence.
                                                                                                                                               BM440563.1
                                                                                                                                                                                     BM440563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               High quality sequence stop: 552.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Email: acameron@caltech.edu
Plate: 1019 row: A column:
Seq primer: SP6
Class: BAC ends
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Contact: Cameron, RA, Davidson, EH, Hood, Division of Biology 156-29
California Institute of Technology Pasadena California 91125, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        additional resources
Proc. Natl. Acad. Sci. U. S. A. 97 (17),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A sea urchin genome project: Sequence scan, virtual map, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cameron,R.A., Mahairas,G., Rast,J.P., Martinez,P., Biondi,T.R., Swartzell,S., Wallace,J.C., Poustka,A.J., Livingston,B.T., Wray,G.A., Ettensohn,C.A., Lehrach,H., Britten,R.J, Davidson,E.H. ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tel: (626) 395-8421 Fax: (626) 793-3047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20402566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AZ191211.1 GI:8374390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 552)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 173 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone="Plate=1019 Col=7 Row=A"
/clone_lib="Strongylocentrotus purpuratus, purple sea
urchin, sperm genomic BAC library"
/note="Organ: sperm; Vector: BACe3.6; BAC Clones in E-Col1
DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Strongylocentrotus purpuratus"
/db_xref="taxon:7668"
                                                                                                                                           GI:18471338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                80.0%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    106 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 16.8; D
Pred. No. 5.3e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             105 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 164 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .3e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9514-9518 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 552;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Echinozoa;
                                                                                                                                                                                                                                                                                                            EST 01-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GSS 30-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               purpuratus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                             ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
```

```
RESULT
CNS0777Y
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                             SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                          (EYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /ERSION
                                                                                                                                                                                                                   JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 80.1
Best Local Similarity 90.1
Matches 18; Conservative
                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                           AUTHORS
      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 taacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TAAGACCTCGCAAATGGAGA 569
Souciet, J.L., Aiglé, M., Artiguenave, F., Blandin, G., Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S., de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, S., Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J. Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies
                                                                                                                                                                                                                                                                                                                                                                          Pichia angusta.
Pichia angusta
Pichia angusta
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CNS0777Y 972 bp DNA linear GSS 08-JUL-20
T7 end of clone BB0AA009H05 of library BB0AA from strain CBS 4732
of Pichia angusta, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unpublished (2002)
Contact: Larry A. Cogburn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 (bases 1 to 610)
Cogburn, L.A. and Nys, y.
ESTs from Normalized Chicken Reproductive Tract cDNA library-
University of Delaware and INRA, Tours-Poultry Unit Project
                                                                                                                                                                                                                                                             angusta
                                                                                                                                                                                                                                                                              Genomic exploration of the hemiascomycetous yeasts: 13. Pichia
                                                                                                                                                                                                                                                                                                       and Dujon, B.
                                                                                                                                                                                                                                                                                                                         Blandin, G., Llorente, B., Malpertuy, A., Wincker, P., Artiguenave,
                                                                                                                                                                                                                                                                                                                                             Saccharomycetales; Saccharomycetaceae; (bases 1 to 972)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AL432356.1 GI:12215770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AL432356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Townsend Hall, Newark, DE 19717, USA Tel: 302-831-1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              University of Delaware
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Archosauria; Aves; Neognathae; Phasianinae; Gallus.
                                                                                                                                                                                                                   20584723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fax: 302-831-2822
                                                                                                                                                                                          (bases 1 to 972)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       148
                                                                                                                                                                                                                                       Lett. 487 (1),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cogburn@udel.edu, www.chickest.udel.edu.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note-"Vector: pCMVSPORT6; Library made from three total RNA pools from each tissue (testis 25%, ovary 25%, and oviduct 50% of final RNA pool); Single pass sequencing from 5'-end"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and sexually-mature"
/lab_host="E. coli EMDH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone_lib-"Normalized Chicken Reproductive Tract cDNA Library (pgr1n)"
/sex-"Male and Female"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /dev_stage="Various stages;embryonic, post-hatch, immature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /strain="Commercial broiler and layer"
/db_xref="taxon:9031"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /clone="pgrln.pk003.h4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ∕organism≖"Gallus gallus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tissue_type="Testis, ovary and oviduct"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            80.0%;
90.0%;
                                                                                                                                                                                                                                       76-81 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 16.8; DB 10;
Pred. No. 5.5e+02;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    141 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Galliformes; Phasianidae;
                                                                                                                                                                                                                                                                                                                                                                     Pichia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 610;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
BI490849
                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rocus
```

```
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     772 TAACACCTCGCAAGAGGAGA 791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 taacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AL Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage,
2 rue Gaston Cremieux, CP 5706, 91057 EPRY cedex, FRANCE. (E-mail:
seqref@genoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen
yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces
exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii,
Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia
angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila,
Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to
5 kb were prepared and both extremities were sequenced. See
keywords for description of this sequence and for the sequence of
the other extremity of this insert.

Location/Qualifiers
                                                                                                                                                               1 (bases 1 to 1321)
NIH-MCC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BI490849.1 GI:15330077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 603031810T1 NIH_MGC_115
                                                                                                                                                                                                                                                                                                                                                                                    Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BI490849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
/note="Organ: pooled brain, lung, testis; Vector:
pCMV-SPORT6; Site_1: NotI; Site_2: EcoRV (destroyed); RNA
                                     /clone="IMAGE:5172818"
/clone_lib="NIH_MGC_115"
/lab_host="DH10B"
                                                                                                                                     1. .1321
                                                                                               /db_xref="taxon:9606"
                                                                                                               /organism="Homo sapiens"
                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="end : T7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /clone_lib="BB0AA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /db_xref="taxon:4905"
/clone="BB0AA009H05"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Pichia angusta"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /strain="CBS 4732"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 90.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               972)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 16.8; DB 12
Pred. No. 6.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            236 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1321
Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bp mRNA 111150
sapiens cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              H
                                                                                                                                                                                                                                                                                                                                                                                                      Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IMAGE: 5172818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST 28-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
```

á

В

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT
ATO01540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
                                ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                           DEFINITION
                                                                                                                                             AV179460/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1262 TAACACCACGCAACAGGAGA 1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                      25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 taacacctcgcaactggaga 21
                                                                                                                                                                                                                                                     4 acacctcgcaactggaga 21
                                                                                                                                                               8
                                                                                                                                                                                                                    ACAGCTCGCAACTGGAGA 42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: Kong HH

Contact: Kong HH

Department of Parasitology

Bepartment of Parasitology

Kyungpook National University School of Medicine

101 Dongin-dong, Chung-ku, Taegu 700 - 422, Korea

Email: hhkong@bh.kyungpook.ac.kr.

Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Acanthamoebidae; Acanthamoeba.

1 (bases 1 to 174)

1 (bases 1 to 174)

1 (kong, H.H., Hwang, M.Y., Yu, H.S., Hong, Y.C., Kim, T.O. and Chung, D.I.

New insight into biology of Acanthamoeba healy! by expressed

sequence tag analysis

Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1/4 bp mRNA linear EST 26-MAR-1999
AT001540 Acanthamoeba healyi cDNA library Acanthamoeba healyi cDNA
clone Ahc507, mRNA sequence.
AT001540
                                                                                    AV179460 300 bp mRNA linear EST 21-JUL-1999 AV179460 Yuji Kohara unpublished cDNA:Strain N2 hermaphrodite embryo Caenorhabditis elegans cDNA clone yk593d12 3′, mRNA
                                                                                                                                                                                                                                                                                             l Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Acanthamoeba healyi.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AT001540.1 GI:4528633
Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                  AV179460.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                      38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source anonymous pool of 6 male brains, age range 23-27; 1 male lung, age 27; and 1 male testis, age 69. Library is oligo-dT primed and directionally cloned (EcoRV site is destroyed upon cloning). Average insert size 1.8 kb, insert size range 1-3 kb. Library is normalized and enriched for full-length clones and was constructed by C. Gruber (Invitrogen). Research Genetics tracking code 021. Note: this is a NIH_MGC Library.*
                                                                                                                                                                                                                                                                                                                                                                                                    /clone_lib="Acanthamoeba healyi cDNA library"
/dev_stage="trophozoite"
52 c 52 g 32 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db_xref="taxon:65661"
/clone="Ahc507"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Acanthamoeba healyi"
/strain="OC-3A"
                                    GI:5559361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    90.0%;
                                                                                                                                                                                                                                                                                                            78.18;
94.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score
Pred.
                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                          Score 16.4; DB 9;
Pred. No. 5.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 e 16.8; DB IV,
NO. 7.3e+02;
                                                                                                                                                                                                                                                                                                                                 Length 174;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1321;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                               0;
```

В Qy

```
RESULT
AV191390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
JOURNAL
                                                                                                                                                                                                                                                              TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Caenorhabditis elegans
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea
; Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AV191390
                                                                                                                                                                                                                                                                                                                                                                        Caenorhabditis elegans.
Caenorhabditis elegans.
Caenorhabditis elegans.
Eukaryota, Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.
1 (bases 1 to 376)
Thiorry-Mior 1 Thiorry-Mior 1 Thiorry-Mior D. Mitsuki H...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 (bases 1 to 300)
Kohara,Y., Shin-i,T., Thierry-Mieg,J., Thierry-Mieg,D., Mitsuk:
Nishigaki,A., Motohashi,T., Zeng,Q., Watanabe,H., Sugimoto,A.,
M., Miyata,A., Mitani,Y., Iida,K., Uesugi,H., Sugiyama,Y. and
                                                                                                                                     Genome Biology Lab.
Mational Institute of Genetics
Yata 1111, Mishima, Shizuoka 411,
Tel: 81-559-81-6855
Fax: 81-559-81-6855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AV191390 AV191390 Yuji Kohara unpublished cDNA:Strain N2 hermaphrodite embryo Caenorhabditis elegans cDNA clone yk593d12 5', mRNA
                                                                                                                                                                                                                                                                                                                  Kohara,Y., Shin-i,T., Thierry-Mieg,J., Thierry-Mieg,D., Mitsuki,H.,
Nishigaki,A., Motohashi,T., Zeng,Q., Watanabe,H., Sugimoto,A., Sano
,M., Miyata,A., Mitani,Y., Iida,K., Uesugi,H., Sugiyama,Y. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AV191390.1 GI:5573542
EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              National Institute of Genetics
Yata 1111, Mishima, Shizuoka 411, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Genome Biology Lab
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Yuji Kohara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Expressed genes in C.elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nomoto, H
                                                                                                                                                                                                                                         Unpublished (1999)
Contact: Yuji Kohara
                                                                                                                                                                                                                                                                              Expressed genes in C.elegans
                                                                                                                                                                                                                                                                                                     NOMOTO, H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           81-559-81-6854
81-559-81-6855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ykohara@lab.nig.ac.jp.
Location/Qualifiers
                                                                                                                  ykohara@lab.nig.ac.jp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /db_xref="taxon:6239"
/clone="yk593d12"
/clone="yk593d12"
/clone="yk593d12"
/clone="yk593d12"
/clone="yk593d12"
/clone="yk593d12"
/hermaphrodite embryo"
/sex="hermaphrodite"
/dev_stage="embryo"
/dev_stage="embryo"
85 c 71 g 85 t 3 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Caenorhabditis elegans"
/strain="N2"
/db_xref="taxon:6239"
/clone="yk593d12"
                                       /strain="N2"
                                                          /organism="Caenorhabditis elegans"
                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    78.18;
94.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 16.4; DB y;
Pred. No. 6.7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mitsuki, H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sano
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

```
RESULT 1
BJ125969
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 10
BJ154339/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
VERSION
                                                                                                                                                          밁
                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ş
                  VERSION
                                  ACCESSION
                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FOCUS
   KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                          255 AACACTTCGCAACTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      313 AACACTTCGCAACTGGAG 330
                                                                                                              11
                                                                                                                                                                                         ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3 aacacctcgcaactggag 20
                                                                                                                                                                          lilli |||||||||||||
BJ125969 394 bp mRNA linear EST 23-JAN-2002 BJ125969 unpublished oligo-capped cDNA library, C. elegans L1 stage Caenorhabditis elegans cDNA clone ykl329g02 5', mRNA sequence. BJ125969 BJ125969.1 GI:18286116 EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Center For Genetic Resource Information National Institute of Genetics 1111 Yata, Mishima, Shizuoka 411-8540, Japan Tel: 81-559-81-6856 Fax: 81-559-81-6855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A complementary view of the C.elegans genome Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Caenorhabditis elegans
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida;
; Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BJ154339
BJ154339.1 GI:18322324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BJ154339 unpublished oligo-capped cDNA library, C. elegans Ll stage Caenorhabditis elegans cDNA clone ykl329g02 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: Tadasu Shin-i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and Sugano, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Caenorhabditis elegans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kohara, Y., Shin-i, T., Thierry-Mieg, J., Thierry-Mieg, D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 380)
                                                                                                                                                                                                                                                                                                                   108
                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tshini@genes.nig.ac.jp
                                                                                                                                                                                                                                                                                                                   а
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone_lib="Yuji Kohara unpublished cDNA:Strain hermaphrodite embryo" /sex="hermaphrodite" /dev_stage="embryo" 85 c 94 g 80 t
                                                                                                                                                                                                                                                                                                                                                                              /clone_lib="unpublished oligo-capped elegans L1 stage"
                                                                                                                                                                                                                                                                                                                                                                                                             /strain="N2"
/db_xref="taxon:6239"
/clone="ykl329g02"
                                                                                                                                                                                                                                                                                                               /sex="hermaphrodite"
/tissue_type="whole animal"
/dev_stage="L1"
72 c 87 g 113 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Caenorhabditis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1. .380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  78.18;
94.48;
                                                                                                                                                                                                                                     78.18;
94.48;
                                                                                                                                                          238
                                                                                                                                                                                         20
                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 16.4; D
Pred. No. 7.3e
0; Mismatches
                                                                                                                                                                                                                                    Score 16.4; DB 10; Pred. No. 7.3e+02;
                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 9;
7.3e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            elegans"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 376;
                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                              cDNA library,
                                                                                                                                                                                                                                                       380;
                                                                                                                                                                                                                        0,:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rhabditoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Suzuki,Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N2
                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                C
                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

```
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                            JOURNAL COMMENT
                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                               SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 1
AW582687
                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       126 AACACTTCGCAACTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 aacacctcgcaactggag 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Caenorhabditis elegans.
Caenorhabditis elegans
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.

1 (bases 1 to 394)

Tobaco 1 to 394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Center For Genetic Resource Information National Institute of Genetics 1111 Yata, Mishima, Shizuoka 411-8540, Tel: 81-559-81-6856 Fax: 81-559-81-6855
                                                                                                                                                                                                                                                                                                       HCGP http://www.ludwig.org.br/ORESTES.
The FAPESP/LICR Human Cancer Genome Project
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           . Similarity
17; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kohara, Y., Shin-i, T.,
                            High quality sequence start: 55
High quality sequence stop: 195
Location/Qualifiers
                                                                               Email: asimpson@ludwig.org.br
This sequence was derived from the FAPESP/LICR Human Cancer Genome
Project. This entry can be seen in the following URL
(http://www.ludwig.org.br/scripts/gethtml2.pl?tl=RCO6t2-RCO-STO299-
070100-011-g066t3=2000-01-076t4=1)
Seq primer: puc 18 forward
                                                                                                                                                                                                                                      Contact: Simpson A.J.G.
Laboratory of Cancer Genetics
Ludwig Institute for Cancer Research
Rua Prof. Antonio Prudente 109, 4 andar, 01509-010,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AW582687
RCO-ST0299-070100-011-g06
AW582687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Tadasu Shin-i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A complementary view of the C.elegans genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and Sugano,S.
                                                                                                                                                                                                                         Brazi
                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AW582687.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Email: tshini@genes.nig.ac.jp.
Location/Qualifiers
                                                                                                                                                                                                         Tel: +55-11-2704922
                                                                                                                                                                                         Fax: +55-11-2707001
                                                                                                                                                                                                                                                                                                                                                               (bases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone_lib="unpublished
elegans L1 stage"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /dev_stage-"L1"
88 c 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Caenorhabditis
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /sex="hermaphrodite"
/tissue_type="whole animal"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone="yk1329g0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /db_xref="taxon:6239"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /strain="N2"
                                                                                                                                                                                                                                                                                                                                                               1 to 469)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GI:7257736
                   . 469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          78.18;
94.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 16.4;
Pred. No. 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Thierry-Mieg,J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             72 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    469 bp
6 ST0299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              111 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 10;
7.4e+02;
hes 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mRNA linear
Homo sapiens cDNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 oligo-capped cDNA library,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      elegans"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Thierry-Mieg, D.,
                                                                                                                                                                                                                                                                                                                                                                               Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 394;
                                                                                                                                                                                                                                           Sao Paulo-SP,
                                                                                                                                                                                                                                                                                                                                                                                                 Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST 16-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
```

```
RESULT
BF619904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 13
AU218666/c
LOCUS
                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                             Matches
                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               354 AACACCTGGCAACTGGAG 371
                                                                       247 AACACTTCGCAACTGGAG 230
                                                                                                                                           Local Similarity
nes 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                w
                                                                                                       3 aacacctcgcaactggag 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aacacctcgcaactggag 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genome Biology Lab.
National Institute of Genetics
Yata 1111, Mishima, Shizuoka 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished (2001)
Contact: Yuji Kohara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Caenorhabditis elegans
Caenorhabditis elegans
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AU218666 unpublished oligo-capped cDNA library, stage L1 Caenorhabditis elegans cDNA clone yk867e09 3', mRNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A complementary view of the C.elegans genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and Sugano, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kohara, Y., Shin-i, T., Thierry-Mieg, J., Thierry-Mieg, D., Suzuki, Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AU218666.1 GI:14856823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (bases 1 to 586)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            141
                                                                                                                                                                                                                                                    153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          81-559-81-6855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         81-559-81-6854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ykohara@lab.nig.ac.jp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note-"Organ: stomach; Vector: puc18; Site_1: SmaI; Site_2: SmaI; A mini-library was made by cloning products derived from ORESTES PCR (U.S. Letters Patent application No. 196,716 - Ludwig Institute for Cancer Research) profiles into the pUC 18 vector. Reverse transcription of tissue mRNA and cDNA amplification were performed under low stringency conditions."
                                                                                                                                                                                                                                                /sex="Hermaphrodite"
/tissue_type="whole animal"
/dev_stage="L1"
126 c 135 g 171 t
                                                                                                                                                                                                                                                                                                                                                            /strain="N2"
/db_xref="taxon:6239"
/clone="yk867e09"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /db_xref="taxon:9606"
/clone_lib="ST0299"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /dev_stage="Adult"
                                                                                                                                                                                                                                                                                                                                           /clone_lib="unpublished oligo-capped cDNA library, stage
                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Caenorhabditis
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ocation/Qualifiers
                                                                                                                                                            78.18;
94.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 78.18;
94.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Shizuoka 411,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 16.4; DB 9; Pred. No. 7.9e+02;
                                                                                                                                                            Score 16.4; DB 9;
Pred. No. 8.6e+02;
                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      586 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Japan
                                                                                                                                                                                                                                                                                                                                                                                                                elegans"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 469;
                                                                                                                                                                           Length 586;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                    others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EST 17-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                             0
```

밁

Query Match Best Local Similarity

78.1%; 94.4%;

Score 16.4; DB 10 Pred. No. 8.6e+02; Mismatches

DB 10;

Indels Length 587;

0

Gaps

0

Matches

17;

Conservative

0;

ş

밁

```
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCUS
DEFINITION
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Wing,R., Close,T.J., Kleinhofs,A., Wise,R., Begum,D., Frisch,D., Yu, Henry,D., Palmer,M., Rambo,T., Simmons,J., Choi,D.W., Fenton,R.D., Oates,R. and Main,D.

Development of a genetically and physically anchored EST resource barley genomics: Morex unstressed seedling shoot cDNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BF619904 587 bp mRNA linear EST 22-OCT-2001 HVSMEC0009K02f Hordeum vulgare seedling shoot EST library HVCDNA0003 (Etiolated and unstressed) Hordeum vulgare cDNA clone HVSMEC0009K02f, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished (2001)
On Dec 18, 2000 th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: rwing@clemson.edu
Total hg bases = 393
Total hg bases = 393
Seg primer: ANTTACCCTCACTAAAGGG
High quality sequence stop: 576.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tel: 864 656 7288 Fax: 864 656 4293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Clemson University
100 Jordan Hall, C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Clemson University Genomics Institute
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Wing RA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooldeae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hordeum vulgare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           barley.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BF619904.2 GI:13107889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BF619904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Triticeae; Hordeum. (bases 1 to 587)
                              163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       quality sequence stop: !
Location/Qualifiers
                                                                                                                                                                                                                                                                                                              then harvested, total RNA was prepared, poly(A) RNA was purified, one primary unamplified cDNA library was made, and I million pfu were in vivo excised to give pBluescript SK(-) cDNA phagemids. These steps were performed in the TJ Close laboratory at the University of California, Riverside (Choi, Close, Fenton). Phagemids were plated and picked at the Clemson University Genomics Institute (CUGI) (Begum, Palmer, Frisch, Atkins and Wing). Plasmid DNA preparations, DNA sequencing and sequence analysis were performed at CUGI (Wing, Yu, Frisch, Henry, Simmons, Oates, Rambo, Main). The sequence has been trimmed to remove vector sequence and contains a minimum of 100 bases of
                    http://www.genome.clemson.edu/projects/barley. To order this clone see http://www.genome.clemson.edu/orders Also see Close TJ, Wing R, Kleinhofs A, Wise R (2001) Genetically and physically anchored EST resources for barley genomics. Barley Genetics Newsletter 31:29-30. http://wheat.pw.usda.gov/gapages/bgn/31/cover.html)*

a 117 c 171 g 136 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note-"Vector: lambdaZAP; Site_1: EcoR1; Site_2: Xhol; Seeds were surface sterilized then germinated under axenic conditions in the dark at room temperature on filter paper with water, nystatin and cefotaxime in covered
                                                                                                                                                                                                                                                    phred value 20 or above. For more details on library preparation and sequence analysis see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    crystallization dishes. Five-day old seedling shoots were
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone_lib="Hordeum vulgare seedling shoot EST library 	ext{HVcDNA}0003 (Etiolated and unstressed)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /tissue_type="Seedling shoot"
/lab_host="TJC121"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone="HVSMEc0009K02f"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Hordeum vulgare"
/cultivar="Morex"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /db_xref="taxon:4513"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         this sequence version replaced g1:11883638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Clemson, SC 29634, USA
```

```
RESULT 15
BH064238/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
Search completed: August 21, 2002, 21:32:34 Job time: 12533 sec
                                                                                                                  В
                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
JOURNAL
                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                  463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 aacacctcgcaactggag 20
||||||||||||
96 AACACCTCGCTACTGGAG 113
                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus. 22 (bases 1 to 713)

El (bases 1 to 713)

Shack, J., Shatsman, S., Akinret, B., Levins, M., Tsegaye, G., Geer, K., Krol, M., Shvartsbeyn, A., Gebregeorgis, E., Tsegaye, G., Geer, K., Krol, M., Shvartsbeyn, A., Gebregeorgis, E., Russell, D., de Jong, P. and Fraser, C.M.

Mouse BAC End Sequences from Library RPCI-24

Unpublished (1999)

Other_GSSs: RPCI-24-370K21.TJ

Contact: Shaying Zhao

Department of Eukaryotic Genomics

The Institute for Genomic Research

9712 Medical Center Dr., Rockville, MD 20850, USA

Tel: 301 838 0200

Fax: 301 838 0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Clones are derived from the mouse BAC library RPCI-24. For BAC library availability, please contact Pieter de Jong (pdejong@mail.cho.org). Clones may be purchased from BACPAC Resources (http://www.chori.org/bacpac/orderingframe.htm). BAC end page: http://www.tigr.org/tdb/bac_ends/mouse/bac_end_intro.html plate: 370 row: K column: 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BH064238 713 bp DNA linear GSS 18-JUL-2001 RPCI-24-370K21.TV RPCI-24 Mus musculus genomic clone RPCI-24-370K21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BH064238.1 GI:14879771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Class: BAC ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Seq primer: T7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: szhao@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA sequence.
                                                                                                                                                                                                                                                                                                                                            170
                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                            Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Mus musculus"
/strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="RPCI-24-370K21"
/clone_lib="RPCI-24"
                                                                                                                                                                                                                                                                                                                                                                 DNA.
                                                                                                                                                                                                                                                                                                                                                                        /cell_type="Spleen/Brain"
/note="Vector: pTARBAC1; Site_1: BamH1; Site_2: BamH1;
/note="Vector: pTARBAC1; Site_1: BamH1; Site_2: BamH1;
/note="Vector: pTARBAC1; Site_1: BamH1; Sites using MboI partially digested male C57BL/6J
BamH1 sites using MboI partially digested male C57BL/6J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /sex="Male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                            78.18;
94.48;
                                                                                                                                                                                                                                                                                                                                            157 c
                                                                                                                                                                                                    Score 16.4; DB 12;
Pred. No. 9.2e+02;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                          175 g
                                                                                                                                                                                                                                                                                                                                            211 t
                                                                                                                                                                                                                                            Length 713;
                                                                                                                                                                                                           Indels
                                                                                                                                                                                                         0;
                                                                                                                                                                                                         0;
```

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Total number of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           욧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence:
    0 0 0 0 0 0 0 0
                                                                                                                                                                                                                                                              0000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   95:
      Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score
  Issued_Patents_NA:*
1: /cgn2_6/ptodata/1,
2: /cgn2_6/ptodata/1,
3: /cgn2_6/ptodata/1,
4: /cgn2_6/ptodata/1,
5: /cgn2_6/ptodata/1,
6: /cgn2_6/ptodata/1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hits satisfying chosen parameters:
      IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    383533 seqs, 122816752 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 ctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-046-955-51
21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   August 21, 2002, 22:12:32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen
      /cgn2_6/ptodata/1/ina/5A_COMB.seq:*
/cgn2_6/ptodata/1/ina/5B_COMB.seq:*
/cgn2_6/ptodata/1/ina/6A_COMB.seq:*
/cgn2_6/ptodata/1/ina/6B_COMB.seq:*
/cgn2_6/ptodata/1/ina/backfiles1.seq:*
/cgn2_6/ptodata/1/ina/backfiles1.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
    561
517
1766
11766
22909
22909
2909
2909
2909
2909
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
2009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₽B
US-08-905-314A-24
US-09-276-531-12
PCT-US94-07107A-1
US-08-08-945C-1
US-08-554-612C-12
US-08-554-612C-13
US-08-554-612C-13
US-08-554-612C-21
US-08-554-612C-21
US-08-554-612C-2
US-08-554-612C-2
US-08-928-383B-1
US-08-93-736-4
US-08-93-738-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Search time 138.45 Seconds (without alignments) 37.258 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   767066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Description
                                          Sequence
Sequence
Sequence
                                                                                                       Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                            sequence
sequence
sequence
sequence
sequence
sequence
sequence
sequence
sequence
sequence
sequence
sequence
sequence
sequence
  Sequence
Sequence
1, Appli
1, Appli
1, Appli
1, Appl
1, Appl
10, Appl
10, Appl
11, Appli
10, Appli
11, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24, Appl
122, App
```

US-08-905-314A-24 JSequence 24, Application US/08905314A Patent No. 5827655 GENERAL IMPORMATION: DETECTION OF WHEAT FUNGAL PATHOGENS TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS TITLE OF INVENTION: USING THE POLYNERASE CHAIN REACTION NUMBER OF SEQUENCES: 24 CORRESSONDENCE ADDRESS: ADDRESSEE: NO. 5827655artis Corporation Patent Department STREET: NO. 5827656artis Corporation Patent Department STREET: NO. 582766artis Corporation CORPOTER READABLE PORM: MEDIUM TYPE: Floopy disk COMPUTER: LBM PC Compatible OPERATING SYSTEM: PO-DOS/MS-DOS SOPTANRE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION NUMBER: US/08/905,314A FILING DATE: FI	
--	--

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-905-314A-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-276-531-122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100
Matches 19; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                              TELEFAX: (650) 845-41 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: COMPOSITION FOR THE DETECTION OF GENES ENCODING
TITLE OF INVENTION: RECEPTORS AND PROTEINS ASSOCIATED WITH CELL PROLIFERATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
                                                                                                                                                                                                PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/079,0
FILING DATE: March 27, 1998
CLASSIFICATION:
                                                                                                                                                                                                                                                                    COMPUTER: IBM_PC_compatible
OPERATING SYSTEM: PC_DOS/MS-DOS
OPERATING SYSTEM: PC_DOS/MS-DOS
SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS 6.2
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/276,531
FILING DATE: Herewith
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION:
                              SEQUENCE CHARACTERISTICS:
LENGTH: 517 base pairs
                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: misc_ feature
LOCATION: 505..561
OTHER INFORMATION: /note= "5' end of large subunit
OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: misc_ fer
LOCATION: 182..338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: /note= "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCATION: 339..504
OTHER INFORMATION: /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: misc_feature LOCATION: 339..504
                                                                                                                                 NAME: Lynn E. Murry, Ph.D.
REGISTRATION NUMBER: 42,918
REFERENCE/DOCKET NUMBER: PA-0008 US
                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 3174 PORTER DRIVE CITY: PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                  TELEPHONE:
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NO. 6183968
                                                                                                                                                                                                                                                                                                                                                                                                                               94304
            nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                             CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Application US/09276531
                                                                                                                                                                                                                                                                                                                                                                                                                                               USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Guegler, Karl J.
Baughn, Mariah R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lal, Preeti
Hillman, Jennifer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Reddy,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bandman, Olga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INCYTE PHARMACEUTICALS, INC
                                                                                                    (650)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Henry
                                                                                  845-4166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Roopa
                                                                                                    855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           90.5%; Score 19;
100.0%; Pred. No.
                                                                                                                                                                                                                                         60/079,677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 1;
0.36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 561;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
```

```
CLONE: 2642108
US-09-276-531-122
                                                                                                                                                                                                                                                                                                      ; FEATURE:
; NAME/KEY:
; LOCATION:
PCT-US93-00601-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PCT-US93-00601-1
                                                                                                      RESULT 4
PCT-US94-07107A-1
                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1, Applicati
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Sequence 1, Application PC/TUS9407107A
GENERAL INFORMATION:
APPLICANT: The Government of the United States of
APPLICANT: America, as represented by the Secretar
APPLICANT: Department of Health and Human Services
TITLE OF INVENTION: AAMP-1
NUMBER OF SEQUENCES: 15
                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (202) 822-0944 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LIBRARY: LUNGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Beckner, Marie E. APPLICANT: Liotta, Lance A. TITLE OF INVENTION: AAMP-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 1766 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 1100 New CITY: Washington STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: PILING DATE: 19930129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 20005-3918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 ctaacacctcgcaactggaga 21
                                                                                                                                                                      99
                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE:
                                                                                                                                                                                    1 ctaacacctcgcaactggaga 21
                                                                                                                                                                    CTGACACCCCCCCACTGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Application PC/TUS9300601
                                                                                                                                                                                                                                                                                                                                                                                             NUCLEIC ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E: CUSHMAN, DARBY & CUSHMAN 1100 New York Avenue, N.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         USA
                               America, as represented by the Secretary, Department of Health and Human Services
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                                                                      CDS
35..1279
                                                                                                                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (202)861-3000
                                                                                                                                                                                                                                                                                                                                                                               double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        69.5%;
                                                                                                                                                                                                                                               69.5%;
81.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PCT/US93/00601
                                                                                                                                                                      86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 14.6;
Pred. No. 70;
                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                               Pred. No.
                                                                                                                                                                                                                                                             Score 14.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB
                                                                                                                                                                                                                                                             DB 5; Length 1766;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 517;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                    0
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; NAME/KEY:
; LOCATION:
PCT-US94-07107A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-083-945C-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: DOW, KATEN B.

REFERENCE/DOCKET NUMBER: 1528

REFERENCE/DOCKET NUMBER: 1528

TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 326-2420
TELEPHONE: (415) 326-2422
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1, Application US/08083945C Patent No. 6274134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07
FILING DATE: 29-JAN-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/083,945C
FILING DATE: 25-JUN-1993
CLASSIFICATION: 424
                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                     APPLICANT: Beckner, Marie E. APPLICANT: Liotta, Lance A. APPLICANT: Krutzsch, Henry C. TITLE OF INVENTION: AAMP-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: FILING DATE: 25-JU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66 CTGACACCCCCCCACTGGAGA 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
                                                                                                                                                                                                                STREET: 379 Lytton Avenue CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH:
                                                                                                                                                                ZIP: 94301
                                                                                                                                                                               COUNTRY: US
                                                                                                                                                                                                                                                       ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        l Similarity 81.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                94301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  r: 379 Lytton Avenue Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               California
                                                                                                                                                                                                 California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1766 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               34..1278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Townsend and Townsend Khourie and Crew
                                                                                                                                                                                                                                                       Townsend and Townsend Khourie and Crew
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-JUN-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         69.5%; Score 14.6;
81.0%; Pred. No. 82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US 07/827,043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PCT/US94/07107A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15280-156-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1766;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
```

```
RESULT 6
US-08-554-612C-13/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-083-945C-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Patent No. 5747660 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 13,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: (415) 326-24 INFORMATION FOR SEQ ID NO:
                                                                                                                                                       APPLICATION NUMBER: US/08/
FILING DATE: No. 5747660em
CLASSIFICATION: 536
ATTORNEY/AGENT INFORMATION:
NAME: Sherwood, Pamela
REGISTRATION NUMBER: 36,67
                                                                            TELEPHONE: (415) 322-5070
TELEFAX: (415) 854-0875
INFORMATION FOR SEQ ID NO: 13:
                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 1767 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: DOW, Karen B.
REGISTRATION NUMBER: 29,684
REFERENCE/DOCKET NUMBER: 15:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 326-2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0:
FILING DATE: 29-JAN-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 5
                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE:
                                                                                                           TELECOMMUNICATION INFORMATION: TELEPHONE: (415) 322-5070
                                                           SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       66 CTGACACCCCCCCACTGGAGA 86
                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                  CITY: Menlo Park
STATE: California
                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                 STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 ctaacacctcgcaactggaga 21
                                                                                                                                             REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                              LENGTH:
                                                                                                                                                                                                                                                                                                                                                  94025
                               1: 1784 base pairs nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/08554612C
                                                                                                                                                                                                                                                                                                                                                                                                                E: Fish & Richardson P.C.
2200 Sand Hill Road, Suite 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Orlicky, David
                                                                                                                                                                                                                                                                                                                                                                 U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CDS
2..1336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                    IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C-DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          326-2422
                                                                                                                                                                                                                       s: US/08/554,612C
5747660ember 6, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  69.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSTAGLANDIN F2' RECEPTOR REGULATORY PROTEIN AND THERAPEUTIC USES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US 07/827,043
                                                                                                                                                          36,677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 14.6;
Pred. No. 82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15280-156-1
                                                                                                                                             06519/004001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1767;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
```

0,

```
á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: Sherwood, Pamela
REGISTRATION NUMBER: 36,677
REGISTRATION NUMBER: 06519/004001
REFERENCE,DOCKET NUMBER: 06519/004001
TELEPHONE: (415) 322-5070
TELEPAX: (415) 322-5070
TELEPAX: (415) 854-0875
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-554-612C-12/c
                                                                                                                        US-08-554-612C-51/c

: Sequence 51, Application US/08554612C

: Patent No. 5747660
                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 12, Appra-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                               Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                         Query Match
                                                             GENERAL INFORMATION:
APPLICANT: Orlicky, David
TITLE OF INVENTION: PROTEI
TITLE OF INVENTION: PROTEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1099 CTAACATCTCGCACCAGTAGA 1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
STREET: 2200 Sand Hill Road, Suite 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                     1099 CTAACATCTCGCACCAGTAGA 1079
                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: 11 MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
hes 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: 2200 Sand
CITY: Menlo Park
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: FILING DATE: No. 57. CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: Fish & Richardson P.C. STREET: 2200 Sand Hill Road, Suite 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH:
                                                                                                                                                                                                                                   1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   94025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Application US/08554612C
                                                                                                                                                                                                                                                                                                                                                                                                                                     2636 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Orlicky,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                U.S.A.
                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                          CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R: US/08/554,612C
5747660ember 6, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            69.5%;
81.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROTEIN AND THERAPEUTIC USES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          David
PROSTAGLANDIN F2' RECEPTOR REGULATORY
                                                                                                                                                                                                                                                                                              69.5%;
                                                               PROTEIN AND
                                                                 PROSTAGLANDIN F2' RECEPTOR REGULATORY PROTEIN AND THERAPEUTIC USES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 14.6;
Pred. No. 82;
                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                 Pred. No.
                                                                                                                                                                                                                                                                                                              Score 14.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                   86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB
                                                                                                                                                                                                                                                                                                                DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4
                                                                                                                                                                                                                                                                                  4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1784;
                                                                                                                                                                                                                                                                                                                Length 2636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                    0
```

```
; STRANDEDNESS; single
; TOPOLOGY: linear
; MOLECULE TYPE: DNA
US-08-554-612C-51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-554-612C-10/c
               CLASSIFICATION: 536
ATTORNEY/AGENT INFORMATION:
NAME: Sherwood, Pamela
REGISTRATION NUMBER: 36,677
REFERENCE/DOCKET NUMBER: 0651
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 854-0875
INFORMATION FOR SEQ ID NO: 10:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 10, Application US/08554612C Patent No. 5747660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 81.0
Matches 17; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: Orlicky, David
TITLE OF INVENTION: PROSTAGLANDIN F2' RECEPTOR REGULATORY
TITLE OF INVENTION: PROTEIN AND THERAPEUTIC USES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (415) 854-087
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ZIP: y4042
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Shorwood, Pamela
REGISTARION NUMBER: 36,677
REFERENCE, DOCKET NUMBER: 06:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 322-5070
TELEPHONE: 415, 964-07570
                                                                                                                                                                               COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTMARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/554,612C
FILING DATE: No. 5747660ember 6, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1088 CTAACATCTCGCACCAGTAGA 1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: FILING DATE: No. 574 CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: Fish & Richardson P.C.
STREET: 2200 Sand Hill Road, Suite 100
CITY: Menlo Park
                                                                                                                                                                                                                                                                                                                                                                      STATE:
                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TRY: U.S.A.
94025
                                                                                                                                                                                                                                                                                                                                   94025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Menlo Park
California
                                                                                                                                                                                                                                                                                                                                                                      California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2898 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (415)
                                                                                                                                                                                                                                                                                                                                                   U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Patentin Release #1.0, Version #1.25
                                                                                                                                                          NO. 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           854-0875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R: US/08/554,612C
5747660ember 6, 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 69.5%;
81.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         51:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 14.6;
Pred. No. 87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                06519/004001
                                                                                             06519/004001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 2898;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
```

0;

```
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-554-612C-10
             NESULT 11
US-08-554-612C-2/c
Sequence 2, Application US/08554612C
Patent No. 5747660
                                                                                                                밁
                                                                                                                                            ş
                                                                                                                                                                                                                                                              US-08-554-612C-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-554-612C-11/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                              Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 11, Application US/08554612C Patent No. 5747660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                       TELEFAX: (415) 854-0875
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 2909 base pairs
TYPE: nucleic acid
                                                                                                            1099 CTAACATCTCGCACCAGTAGA 1079
                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: 06
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 322-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear MOLECULE TYPE: cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION:
                                                                                                                                                                                                                                                                          TOPOLOGY: 11
MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/08/554,612C FILING DATE: No. 5747660ember 6, 1995 CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: Menlo Park
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH:
                                                                                                                                                                                                                                                                                                         STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 94025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sherwood, Pamela
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E: Fish & Richardson P.C. 2200 Sand Hill Road, Suite 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2909 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     69.5%; ilarity 81.0%; Conservative
                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Floppy disk
                                                                                                                                                                                                                                                                                                        single
                                                                                                                                                                              69.5%; Score 14.6; [81.0%; Pred. No. 88; tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSTAGLANDIN F2' RECEPTOR REGULATORY PROTEIN AND THERAPEUTIC USES
                                                                                                                                                                                                                                                                                                                                                                                                                                                      36,677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 14.6; D
Pred. No. 88;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                          06519/004001
                                                                                                                                                                                                             DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 1; Length 2909;
                                                                                                                                                                                                             Length 2909;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                               0
```

```
; TOPOLOGY: 1i
; MOLECULE TYPE:
US-08-554-612C-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 12
US-09-386-493-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/386,493
CURRENT FILING DATE: 1999-08-30
NUMBER OF SEQ ID NOS: 14
SOFTWARE: PERL Program
SEQ ID NO 9
LENGTH: 644
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 9, Appli
Patent No. 626224
                                                                                                                                                                                                                                                                                                      APPLICANT: Kaser, Matthew R.
APPLICANT: Azimzai, Yalda
APPLICANT: Azimzai, Yalda
APPLICANT: Yue, Henry
TITLE OF INVENTION: POLYCYCLIC AROMATIC HYDROCARBON INDUCED MOLECULES
FILE REFERENCE: PB-0011 US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE: (415) 322-5070
TELEFAX: (415) 854-0875
INFORMATION FOR SEQ ID NO: 2:
OTHER INFORMATION: 700062690 PUBLICATION INFORMATION:
                                                                   NAME/KEY: unsure LOCATION: 44 OTHER INFORMATION: a or g or c or t,
                                       NAME/KEY:
                                                                                                                                                    ORGANISM: Rattus norvegicus
                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 ctaacacctcgcaactggaga 21
|||||| |||||| | ||||
|1137 CTAACATCTCGCACCAGTAGA 1117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Sherwood, Pamela
REGISTRATION NUMBER: 36,677
REFERENCE/DOCKET NUMBER: 06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOETWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: PROTITLE OF INVENTION: PROTITUDE OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 2200 Sand
CITY: Menlo Park
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: NO. 57 CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/08/554,612C FILING DATE: No. 5747660ember 6, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: U
ZIP: 94025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/09386493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E: Fish & Richardson P.C.
2200 Sand Hill Road, Suite 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Orlicky, David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSTAGLANDIN F2' RECEPTOR REGULATORY PROTEIN AND THERAPEUTIC USES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  69.5%; Score 14.6;
81.0%; Pred. No. 96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06519/004001
                                                                            unknown,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 5843;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
```

```
RESULT 14
US-08-928-383B-1/c
: Sequence 1, Application US/08928383B
: Patent No. 6210921
                                                                                                밁
                                                                                                                                                                                                                                            US-08-928-383B-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-928-383B-3/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                             Matches
                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: 12-SEP-1997
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/026,100
FILING DATE: 13-SEP-1996
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Any E.
REGISTRATION NUMBER: 36,207
REGISTRATION NUMBER: 36,207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3, Application US/08928383B Patent No. 6210921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (617)227-74
TELEFAX: (617)742-4214
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                         MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Robert W. Finberg, Jeffrey M. Bergelson,
APPLICANT: and Marshall S. Horwitz
TITLE OF INVENTION: CAR, A No. 6210921el Coxsackievirus and Adenovirus
TITLE OF INVENTION: Receptor
                                                                                             440 TAACATCTCGCACCTGAAG 422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                         Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          176 taacacatggcatctggag 194
                                                                                                                                                                                                                                                                                                                                  LENGTH: 1095 base pairs TYPE: nucleic acid STRANDEDNESS: single
                                                                                                              2 taacacctcgcaactggag 20
                                                                                                                                                                                                                                                                          NAME/KEY:
                                                                                                                                                                                                                                                                                                                          TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                           LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 taacacctcgcaactggag 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16;
                                                                                                                                                        16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                    0617)227-7400
(617)742-4214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            E: LAHIVE & COCKFIELD, LLP
28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    67.6%;
84.2%;
                                                                                                                                                                      67.6%; Score 14.2; DB 4; 84.2%; Pred. No. 1.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US/08/928,383B
                                                                                                                                                                                                                                                                                                                                                                                                      <u>ω</u>
                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DFN-020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 14.2;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 4;
                                                                                                                                                                                       DB 4;
                                                                                                                                                                                     Length 1095;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 644;
                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
```

```
APPLICANT: DeGregori, James
TITLE OF INVENTION: Adenoviral mediated gene
FILE REFERENCE: 90-98
CURRENT APPLICATION NUMBER: US/09/272,496
CURRENT FILING DATE: 1999-03-19
EARLIER APPLICATION NUMBER: US 60/092782
EARLIER FILING DATE: 1998-07-14
NUMBER OF SEO ID NOS: 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; NAME/KEY:
; LOCATION:
US-08-928-383B-1
                                                                                                                                                                                                                                                                                            RESULT 15
US-09-272-496-1/c
                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                              SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 1
LENGTH: 2434
                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                           Sequence 1, Application US/09272496 Patent No. 6245966
                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (617)742-4214
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
1504 haso nair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
APPLICANT: Robert W. Finberg, Jeffrey M. Bergelson,
APPLICANT: and Marshall S. Horwitz
TITLE OF INVENTION: CAR, A NO. 6210921el Coxsackiev
TITLE OF INVENTION: Receptor
ORGANISM: Homo sapiens FEATURE:
                                 TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60,
FILING DATE: 13-SEP-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: DF
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEPAX: (617)742-4214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: Patentin Rel
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                  499 TAACATCTCGCACCTGAAG 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD, LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                    2 taacacctcgcaactygag 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: nucleic acid
STRANDEDNESS: sing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Mandragouras, Amy E REGISTRATION NUMBER: 36,20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: FILING DATE: 12-SE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                        16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1584 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             USA
                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDS
60..1157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PatentIn Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12-SEP-1997
                                                                                                                                                                                               Adenoviral mediated gene transfer into lymphocytes
                                                                                                                                                                                                                                                                                                                                                                                                                                                 67.6%; Score 14.2;
84.2%; Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US 60/026,100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US/08/928,383B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      36,207
                                                                                                                                                                                                                                                                                                                                                                                                                                    0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DFN-020
                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6210921el Coxsackievirus and Adenovirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                             1.3e+02;
3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1584;
                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

```
Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Searched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB seq length: 0
DB seq length: 2000000000
              August 22, 2002, 00:39:40 ; Search time 8184.59 Seconds (without alignments) 55.511 Million cell updates/sec
| Ggn2_6/ptodata/1/pna/US06_COMB.seq:*
| Ggn2_6/ptodata/1/pna/US06_COMB.seq:*
| Ggn2_6/ptodata/1/pna/US07_COMB.seq:*
| Ggn2_6/ptodata/1/pna/US08_COMB.seq:*
| Ggn2_6/ptodata/1/pna/US08_COMB.seq:*
| Ggn2_6/ptodata/1/pna/US082_COMB.seq:*
| Ggn2_6/ptodata/1/pna/US092_COMB.seq:*
| Ggn2_6/ptodata/1/pna/US092_COMB.seq:*
| Ggn2_6/ptodata/1/pna/US092_COMB.seq:*
| Ggn2_6/ptodata/1/pna/US093_COMB.seq:*
| Ggn2_6/ptodata/1/pna/US00_COMB.seq:*
| Ggn2_6/ptodata/1/p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-046-955-51
21
1 ctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21979536 seqs, 10817449327 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pending_Patents_NA_Main:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      43959072
```

```
555445
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
55532
                          ./cgn2_6/ptodata/1/pna/US6005_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6006_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6006_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6009_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6009_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6010_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6011_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6011_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6013_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6015_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6015_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6016_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6018_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6018_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6018_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6018_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6018_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6020_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6021_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6021_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6021_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6021_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6021_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6021_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6021_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6021_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6021_COMB.seq:*
./cgn2_6/ptodata/1/pna/US6031_COMB.seq:*
```

pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

C		o		Ω	: Rex
29 30 31	225 27 27	19 20 21 23	12 14 15 17	3 4 5 7 6 10 11	Result NO.
16.2 16.2 16.2			16.2 16.2 16.2	19.4 19.4 19 17 17 17 17 16.8 16.8	Score 21
77.1 77.1 77.1	77.1 77.1 77.1 77.1	77.1 77.1 77.1 77.1	77.1 77.1 77.1 77.1 77.1	10000005	Match 100.0
474 489 499	403 403 427 427	313 313 375 375	3133313	563 561 90698 90698 141753 141753 141753	o □ ; □
75 23 24	19 60 16	10 10 10 10 10 10 10 10 10 10 10 10 10 1	17 19 29 33	27 27 27 27 27 27	DB 18
-09	US-09-521-640-55728 US-09-874-708A-59772 US-60-211-750-58685 US-09-293-972-29952 US-09-904-939-29952	600000000000000000000000000000000000000		-09-580-797 -08-905-314 -08-905-314 -09-803-736 -09-692-412 -09-803-736 -09-803-736 -09-803-736 -09-804-016	US-09-423-233-6
	Sequence 59772, A Sequence 59772, A Sequence 58685, A Sequence 29952, A Sequence 29952, A			10, 121, 121, 121, 121, 121, 130, 148, 148, 148,	Description Sequence 51, Appl Sequence 6, Appli

```
US-09-423-233-6
; Sequence 6, Application US/09423233
; Sequence 6, Application US/09423233
; GENERAL INFORMATION:
; APPLICANT: The Government of the United States of America as
; TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species
; TITLE OF INVENTION: Other Filamentous Fungi
; FILE REFERENCE: 03063-0341WP
                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; TYPE: DNA
; ORGANISM: Fusarium solani
US-09-423-233-51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-423-233-51
  밁
                                                                                                          : LENGTH: 319
: TYPE: DNA
: ORGANISM: Fusarium solani
US-09-423-233-6
                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 51, Application US/09423233
GENERAL INFORMATION:
APPLICANT: The Government of the United States of America as
TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species
TITLE OF INVENTION: Other Filamentous Fung1
FILE REFERENCE: 03063-0341NP
CURRENT APPLICATION NUMBER: US/09/423,233
CURRENT FILING DATE: 2000-06-27
NUMBER OF SEQ ID NOS: 61
SOFTMARE: Patentin Ver. 2.0
SEQ ID NO 51
LENGTH: 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  იი
                                                Query Match
Best Local S
Matches 21
                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/423,233
CURRENT FILING DATE: 2000-06-27
NUMBER OF SEQ ID NOS: 61
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 6
LENGTH: 319
                                                                                                                                                                                                                                                                                                                                                                                       Ouery Match
Best Local Similarity
Matches 21; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4444033553333333344443398
Local Similarity nes 21; Conserv
                                                                                                                                                                                                                                                                                                                                         1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                   1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 499
599
599
745
1037
1037
1037
1037
1493
4005
4343
12260
                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 21; DB 1 100.0%; Pred. No. 0.69;
                                                            100.0%; Score 21; DB 100.0%; Pred. No. 1.2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-634-306B-136134
US-09-702-1134-38705
US-09-815-264-100800
US-60-172-362-3540
US-09-634-306B-259445
US-09-634-306B-259447
US-09-634-306B-259447
US-09-622-303-1121
US-09-522-303-1121
US-09-522-303-1121
US-09-523-303-11714
US-60-258-773-238
US-09-520-392-177441
US-09-520-392-177442
US-60-230-392-177442
US-60-230-392-177442
                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                DB 18; Length 21;
                                                                        DB 18; Length 319;
                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 100800,
Sequence 3540, Ap
Sequence 259445,
Sequence 259447,
Sequence 9371, Ap
Sequence 1121, Ap
Sequence 1714, Ap
Sequence 17241, Ap
Sequence 17241, Ap
Sequence 17242, A
Sequence 71, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
Sequence
Sequence
Sequence
Sequence
                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                          0;
```

```
; NAME/KEY: misc_feature ; LCGATION: (0) ...(0) ; OTHER INFORMATION: n = a or c or US-09-580-797-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; Sequence 10, Application US/09580797
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-580-797-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-905-314-24
                                                                               CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,241
REFERENCE/DOCKET NUMBER: CGC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (919) 541-8587
TELEPAX: (919) 541-8689
INFORMATION FOR SEQ ID NO: 24:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Henry, Peter C.
APPLICANT: Hinrichs, Steven H.
APPLICANT: Hinrichs, Steven H.
APPLICANT: Henry, Travis
APPLICANT: Board of Regents of the University of Nebraska
TITLE OF INVENTION: Materials and Methods for Molecular
TITLE OF INVENTION: Detection of Clinically Relevant Pathogenic Fungal Species
FILE REFERENCE: UNNC 63149
CURRENT APPLICATION NUMBER: US/09/580,797
CURRENT APPLICATION NUMBER: US/09/580,797
CURRENT FILING DATE: 2000-05-30
NUMBER OF SEQ ID NO5: 39
SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 10
LENGTH: 563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 24, Applicat
GENERAL INFORMATION:
APPLICANT: Beck,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA
ORGANISM: Fusarium solani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                                                                                  ZIP: 20779-2257

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/905,314
                                      SEQUENCE CHARACTERISTICS:
LENGTH: 561 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS TITLE OF INVENTION: USING THE POLYMERASE CHAIN REACTION NUMBER OF SEQUENCES: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    478 ctaacacctcgcaaatggaga 498
                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 ctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SSEE: Novartis Corporation Patent Department
D: 3054 Cornwallis Road
Research Triangle Park
                  nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Application US/08905314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     James J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               92.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 19.4; D
Pred. No. 9.8;
                                                                                                                                                                          1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 563;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

```
LOCATION: 505..561
COTHER INFORMATION: /note= "5'
OTHER INFORMATION: rRNA gene"
US-08-905-314-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 5
US-09-803-736-1210
 В
                                ş
                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US 09/534,859
PRIOR FILING DATE: 2000-03-29
PRIOR APPLICATION NUMBER: identified by
PRIOR FILING DATE: 2000-10-20
NUMBER OF SEQ ID NOS: 1582
SEQ ID NO 1210
LENGTH: 90698
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1210, Application US/09803736 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 90.5%; Score 19; Best Local Similarity 100.0%; Pred. No. Matches 19; Conservative 0; Mismatc
                                                                 Query Match 81.0
Best Local Similarity 100.
Matches 17; Conservative
                                                                                                                                               ORGANISM: Arabidopsis thaliana -09-803-736-1210
                                                                                                                                                                                                                                                                                                           APPLICANT: Rounsley, Steven D.
APPLICANT: Wiegand, Roger C.
TITLE OF INVENTION: Plant Polymorphic Markers and Uses Thereof
FILE REFERENCE: 38-10(15493)D
CURRENT APPLICATION NUMBER: US/09/803,736
CURRENT FILING DATE: 2001-03-12
                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Bush, David F
   77736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: misc_ feature LOCATION: 182..338
OTHER INFORMATION: /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: misc_ feature LOCATION: 1..30 OTHER INFORMATION: /note OTHER INFORMATION: rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: misc_feature LOCATION: 31..181
OTHER INFORMATION: /no:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN: Fusarium avenaceum INDIVIDUAL ISOLATE: 64452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: misc_feature LOCATION: 505..561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: misc_feature LOCATION: 339..504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 ctaacacctcgcaactgga 19
                  5 cacctcgcaactggaga 21
cacctcgcaactggaga 77752
                                                                                                                                                                                                                                                                                                                                                                                                             Levin, Irena M.
Norris, Susan R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "3' rRNA gene"
                                                                                  81.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "ITS 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  64452 and
                                                                    0
                                                                                   Score 17;
; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    end of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R-4045 (consensus sequence)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of large
                                                                                                                                                                                                                                                                 Attorney Docket number 04983.0206CPUS01 38-10
                                                                                   DB 31; 1
. 5.4e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB
16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    small subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 561;
                                                                                                 Length 90698;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                       0;
```

```
APPLICANT: Rounsley, Steven D.
APPLICANT: Wiegand, Roger C.
TITLE OF INVENTION: Plant Polymorphic Markers and Uses Thereof
FILE REFERENCE: 38-10(15493)D
CURRENT FILING DATE: 2001-03-12
CURRENT FILING DATE: 2001-03-12
PRIOR APPLICATION NUMBER: US 09/534,859
PRIOR FILING DATE: 2000-03-29
PRIOR FILING DATE: 2000-03-29
PRIOR FILING DATE: 2000-10-20
INMBER OF SEQ ID NOS: 1582
SEQ ID NO 1210
LENGTH: 000120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-803-736-1210/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; NAME/KEY: unsure
; LCCATION: (1)..(141753)
; OTHER INFORMATION: unsure at all n locations
US-09-692-412-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: Arabidopsis thaliana US-09-803-736-1210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-692-412-28
                                                                                                                                                                                                                                                               RESULT
                                                                                                                   US-09-803-736-1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILE REFERENCE:

38-10(15493)C

CURRENT PPLICATION NUMBER: US/09/692,412

CURRENT FILING DATE: 2000-10-24

NUMBER OF SEQ ID NOS: 124

SEQ ID NO 28

I FENDRALL SALVER AND ALLER 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT. n.-.
                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 28, Application US/09692412
GENERAL INFORMATION:
APPLICANT: Rounsley, Steven D.
APPLICANT: Wiegand, Roger C.
APPLICANT: Wiegand, Roger C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 17; Conserv
Sequence 1008, Application GENERAL INFORMATION:
APPLICANT: Bush, David F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 141753
TYPE: DNA
ORGANISM: Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PPLICANT: Bush, David F.
PPLICANT: Rounsley, Steven D.
PPLICANT: Wiegand, Roger C.
ITLE OF INVENTION: Plant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5 cacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                       l Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       81.0%; Score 17; DB 31;
100.0%; Pred. No. 5.4e+02;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                   81.0%; Score 17; DB 27;
100.0%; Pred. No. 5.9e+02;
Live 0; Mismatches 0;
                                                                                   US/09803736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 90698;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 141753;
                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

Levin, Irena M. Norris, Susan R

```
; NAME/KEY: unsure

: LOCATION: (1)..(141753)

: OTHER INFORMATION: unsure at all n locations

US-09-803-736-1008
                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; LENGTH: 445
; TYPE: DNA
; ORGANISM: Glycine max
US-09-654-617-4875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-654-617-4875; Sequence 4875; Appli; GENERAL INFORMATION:
                                                                                                                                                                                                                           US-09-684-016-4875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Db 138449 cacctcgcaactggaga 138465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/654,617
CURRENT FILING DATE: 2000-09-05
NUMBER OF SEQ ID NOS: 463173
SEQ ID NO 4875
LENGTH: ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Rounsley, Steven D.
APPLICANT: Wiegand, Roger C.
TITLE OF INVENTION: Plant Polymorphic Markers and Uses Thereof
FILE REFERENCE: 38-10(15493)D
CURRENT APPLICATION NUMBER: US/09/803,736
CURRENT FILING DATE: 2001-03-12
PRIOR APPLICATION NUMBER: US 09/534,859
PRIOR FILING DATE: 2000-03-29
PRIOR FILING DATE: 2000-10-20
PRIOR FILING DATE: 2000-10-20
NUMBER OF SEQ ID NOS: 1582
SEQ ID NO 1008
LENGTH: 141753
TYPE: DNA
ORGANISM: Arabidopsis thaliana
                                                                                                                                                                                       Sequence 4875, Application US/09684016 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 90.0
Matches 18; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 17; Conserv
              PRIOR APPLICATION NUMBER:
PRIOR FILING DATE:
NUMBER OF SEQ ID NOS:
SEQ ID NO 4875
                                                                              TITLE OF INVENTION: Annotated Plant Genes FILE REFERENCE: 38-21(15097)D CURRENT APPLICATION NUMBER: US/09/684,016 CURRENT FILING DATE: 2000-10-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Kovalic, APPLICANT: Liu, Jingdong TITLE OF INVENTION:
                                                                                                                                     APPLICANT: Kovalic, APPLICANT: Liu, Jingdong TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
LENGTH: 445
                                                                                                                                                                                                                                                                                            2 taacacctcgcaactggaga 21
||||||||| | ||||||||
1 taacacctcacgactggaga 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5 cacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/09654617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kovalic, David K.
                                                                                                                                                                         Kovalic, David K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         81.0%;
                                                                                                                                                                                                                                                                                                                                                                                       90.0%;
                                   2000-09-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Annotated Plant Genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 17;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                      Score 16.8; DB 25;
Pred. No. 2.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                    US 09/654,617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 31; 1
. 5.9e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 141753;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                         Length 445;
                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                          0
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-684-016-4875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-205-070-39950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-205-070-39950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; Sequence 39950, Application US/09205070; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-321-214-6054
                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Hyseq, Inc.
TITLE OF INVENTION: LIBRARIES
TITLE OF INVENTION: LIBRARIES
FILE REFERENCE: 20411-748
CURRENT APPLICATION NUMBER: US/09/205,070
CURRENT FILING DATE: 1998-12-03
NUMBER OF SEQ ID NOS: 45207
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 39950
LENGTH: 313
                                        CURRENT APPLICATION NUMBER: US/09/321,214
CURRENT FILING DATE: 1999-05-26
EARLIER APPLICATION UNBER: US 60/088,041
EARLIER FILING DATE: 1998-06-02
NUMBER OF SEQ ID NOS: 31906
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 6054
LENGTH: 313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 80.0%;
Best Local Similarity 90.0%;
                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                               Sequence 6054,
ORGANISM: Homo sapiens -09-321-214-6054
                                                                                                                                                                            TITLE OF INVENTION: NOVEL NUCLEIC ACID SEQUENCES OBTAINED TITLE OF INVENTION: FROM VARIOUS CDNA LIBRARIES FILE REFERENCE: 20411-740
                                                                                                                                                                                                                                                                                                            APPLICANT: Hyseq, Inc.
APPLICANT: Drmanac, Radoje
APPLICANT: Crkvenjakov, Rac
APPLICANT: Dickson, Mark
                                                                                                                                                                                                                                                              APPLICANT: Drmanac, Snezana
APPLICANT: Labat, Ivan
APPLICANT: Leshkowitz, Dena
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Glycine max
                                                                                                                                                                                                                               APPLICANT: Kita, David APPLICANT: Ford, John
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
NAME/KEY: misc_feature
LOCATION: (1)...(313)
OTHER INFORMATION: n =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
les 18; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     49 ctaactcctccccactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 taacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 taacacctcacgactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18;
                                                                                                                                                                                                                                                                                                                                                                                                  Application US/09321214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77.18;
85.78;
                                                                                                                                                                                                                                                                                                                                   Radomir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A,T,C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 16.2; DB Pred. No. 5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ဝူ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 16.8; DB 27; Pred. No. 2.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         313;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
```

```
Sequence 39950, Application US/09340623

GENERAL INFORMATION:
APPLICANT: Hyseq, Inc.
TITLE OF INVENTION: NOVEL CONTIGS OBTAINED FROM VAR
TITLE OF INVENTION: LIBRARIES
FILE REFERENCE: 20411-748CON1
CURRENT APPLICATION NUMBER: US/09/340,623
CURRENT FILING DATE: 1999-06-28
EARLIER APPLICATION NUMBER: US 09/205,070
EARLIER FILING DATE: 1998-12-03
NUMBER OF SEQ ID NOS: 45207
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 39950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-340-623-39950
                                                                                                                                                                                                                                                                                                                                                  US-09-516-335-6054
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match //...
Best Local Similarity 85.7
Matches 18; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                     Sequence 6054, Application US/09516335 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                       APPLICANT:
                                                                 APPLICANT:
                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                       APPLICANT: Arterburn, Matthew
                                                                                                                                                                                     APPLICANT:
                                         APPLICANT:
                                                                                                                                  APPLICANT:
                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: misc_feature
LOCATION: (1)...(313)
OTHER INFORMATION: n = A.T.C
  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 313
                                                                                                                                                                                                                                                                                                                                                                                                    49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   49 ctaactcctcccactggaga 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 ctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                   ctaactcctccccactggaga 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
Labat, Ivan
Laroya, Mimi
Lomelli, Michelle
Nelken, Sarah
Nguyen, Kody
Nguyen, Lynne
Nguyen, Phuong
Nogra, Margie
Palencia, Servando
                                                                                                                 Jones, Lee
Kita, David
                                                                                                                                             Jessen, Aar
Jomek, Leni
                                                                                                                                                                                                             Engleman, Carrie
Faulkner, Brandy
                                                                                                                                                                                                                                                                                             Asghari,
                                                                                                                                                                         Gledt, Gretchen
                                                                                                                                                                                       Garcia, Veronica
                                                                                                                                                                                                                                          Drmanac, Radoje
                                                                                                                                                                                                                                                      Drake, Jim
                                                                                                                                                                                                                                                                   Dickson, Mark
                                                                                                                                                                                                                                                                              Damavandi,
                                                                                                                                                                                                  Fox, Melvin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                  Lee
                                                                                                                                                           Aaron
                                                                                                                                                                                                                                                                                             Vida
                                                                                                                                                                                                                                                                               Simin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77.1%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   77.18;
85.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 16.2;
Pred. No. 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 16.2; DB 17;
Pred. No. 5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ω
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VARIOUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 313;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   313;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
```

```
; TYPE: DNA; Homo sapiens US-09-516-335-6054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Wachter, Adam
APPLICANT: Wu, James
APPLICANT: Yim, Kenneth
TITLE OF INVENTION: ROVEL NUCLEIC ACID SEQUENCES OBT
TITLE OF INVENTION: FROM VARIOUS CDNA LIBRARIES
FILE REFERENCE: 740CIP
CURRENT APPLICATION NUMBER: US/09/516,335
CURRENT FILING DATE: 2000-03-01
EARLIER APPLICATION NUMBER: 09/321,214
EARLIER FILING DATE: 1999-05-26
EARLIER FILING DATE: 1999-05-26
EARLIER APPLICATION NUMBER: 60/088,041
EARLIER FILING DATE: 1998-06-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 15
US-09-733-811-6054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Sidhu, Navjiwan APPLICANT: Smith, Benjamin APPLICANT: Smythe, Ashleigh APPLICANT: Tkach, Joe APPLICANT: Tran, Lien APPLICANT: Verna, Ron APPLICANT: Verna, Ron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS: 31906
SOFTWARE: RastSEQ for Windows Version 3.0
SEQ ID NO 6054
LENGTH: 313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: Arterbu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local !
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 6054, Application US/09733811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                          APPLICANT:
APPLICANT:
                                                                                                                                                       APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                              APPLICANT:
                                                                                                                          APPLICANT:
                                                                                                                                            APPLICANT:
                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                APPLICANT:
                                              APPLICANT:
                                                                                                                                                                                                                                                                                   APPLICANT:
                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 ctaacacctcgcaactggaga 21
||||| ||| ||| |||||||
49 ctaactcctccccactggaga 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 l Similarity
18; Conserv
INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Raisi, Fariba
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Randhwa, Gurpreet
                                                                                                                      Nguyen, Lynne
Nguyen, Phuong
Nogra, Margie
      Smythe, Assorb, Joe
                                          Randhwa, Gurpreet
Sidhu, Navjiwan
Smith, Benjamin
                                                                          Palencia, Servando
Raisi, Fariba
Randhwa, Gurpreet
                                                                                                                                                                                                                                                                                Jessen, Aaron
Jomek, Leni
                                                                                                                                                                                                                                                                                                                 Garcia, Veronica
Giedt, Gretchen
                                                                                                                                                                                                                                                                                                                                                             Engleman, Carrie
Faulkner, Brandy
                                                                                                                                                                                                                                                                                                                                                                                           Drmanac, Radoje
                                                                                                                                                                                                                                                                                                                                                                                                               Drake, Jim
                                                                                                                                                                                                                                                                                                                                                                                                                            Damavandi, Simin
Dickson, Mark
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Arterburn, Matthew 
Asghari, Vida
                                                                                                                                                                                                    Laroya, Mimi
Lomelli, Michelle
                                                                                                                                                                                                                                                                                                                                                Fox, Melvin
                                                                                                                                                                                                                                     Labat, Ivan
                                                                                                                                                                                                                                                    Kita, David
                                                                                                                                                                      Nguyen, Kody
                                                                                                                                                                                   Nelken, Sarah
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                    Lee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              77.18;
85.78;
                             Ashleigh
 NOVEL NUCLEIC ACID SEQUENCES OBTAINED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 16.2; DB Pred. No. 5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OBTAINED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 313;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
```

```
us-10-046-955-51.
```

```
Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Title:
Perfect score:
                                                                                                                                                                                                 Database :
                                                                                                                                                                                                                                                                                                                                                                                                                  Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                 Pending_Patents_NA_New: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-046-955-51
21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    August 22, 2002, 00:50:57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1721111 seqs, 1345317543 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GenCore version 4.5
Copyright (c) 1993 - 2000 Comp
/cgn2_6/ptodata/2/pna/PCT_NEW_COMB.seq:*
/cgn2_6/ptodata/2/pna/US06_NEW_COMB.seq:*
/cgn2_6/ptodata/2/pna/US09_NEW_COMB.seq:*
/cgn2_6/ptodata/2/pna/US09_NEW_COMB.seq:*
/cgn2_6/ptodata/2/pna/US09_NEW_COMB.seq:*
/cgn2_6/ptodata/2/pna/US10_NEW_COMB.seq:*
/cgn2_6/ptodata/2/pna/US10_NEW_COMB.seq:*
/cgn2_6/ptodata/2/pna/US10_NEW_COMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Search time 663.62 Seconds (without alignments) 85.144 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                         3442222
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match Length		DB	ID	Description
-	21	100.0	21	7	US-10-046-955-51	Sequence 51, Appl
2	21	100.0	319	7	US-10-046-955-6	Sequence 6, Appli
w	17	81.0	510	თ	US-09-620-393B-5270	Sequence 5270, Ap
4	16.2	77.1	499	7	US-10-027-632-136133	Sequence 136133,
s	16.2	77.1	499	7	US-10-027-632-136134	Sequence 136134,
6		77.1	1037	7	US-10-027-632-259445	Sequence 259445,
7	16.2	77.1	1037	7	US-10-027-632-259446	Sequence 259446,
80	16.2	77.1	1037	7	US-10-027-632-259447	Sequence 259447,
9	16.2	77.1	33769	ш	PCT-US02-15982-8	Sequence 8, Appli
10	16.2	77.1	33769	u	US-09-544-398A-8	Sequence 8, Appli
11	16.2	77.1	33769	თ	US-09-544-398B-8	Sequence 8, Appli
c 12	15.8	75.2	341	8	US-60-360-039-29617	Sequence 29617, A
13	15.2	72.4	294	S	US-09-540-210B-34637	Sequence 34637, A
14	15.2	72.4	598	7	US-10-027-632-224405	Sequence 224405,
15	15.2	72.4	723	7	US-10-027-632-20739	Sequence 20739, A
	15.2	72.4	792	7	US-10-027-632-137644	Sequence 137644,
	15.2	72.4	792	7	US-10-027-632-137645	Sequence 137645,
c 18	15.2	72.4	856	7	US-10-155-881-37126	Sequence 37126, A
	15.2	72.4	884	6	US-10-098-754-14341	Sequence 14341, A
20	15.2	72.4	1244	5	US-09-886-492-14875	Sequence 14875, A
21	15.2	72.4	1932	u	US-09-665-308D-17	Sequence 17, Appl
22	15.2	72.4	2685	ۍ	US-09-935-625-16439	Sequence 16439, A
23	15.2	72.4	2685	ري د	US-09-935-625-24778	Sequence 24778, A
24	15.2	72.4	2712	S	US-09-935-625-9769	Sequence 9769, Ap
25	15.2	72.4	2712	Ŋ	US-09-935-625-26473	Sequence 26473, A

G	O	O	o	O	o						ი	o	ი		O	o	o		
45	44	43	42	41	40	39	38	37	36	35	34	ω ω	32	31	30	29	28	27	0
14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	15.2	15.2	15.2
70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	72.4	72.4	12.4
1372	1214	1155	1161	906	800	586	571	571	571	478	422	332	316	284	258	209	11485	2757	2/3/
7	7	7	7	6	7	v	7	7	7	σ	7	s	5	Ç	Ç	IJ	σ	Çī	U
US-10-155-881-14650	US-10-155-881-14652	US-10-155-881-35795	US-10-155-881-35934	US-10-098-754-11987	US-10-027-632-170361	US-09-886-492-15318	US-10-027-632-22593	US-10-027-632-22592	US-10-027-632-22591	US-09-918-995-31316	US-10-011-154-3257	US-09-886-492-3043	US-09-698-495-425	US-09-540-210B-34924	US-09-975-254-27983	US-09-886-492-7487	US-10-205-219-144	US-09-935-625-26637	02-03-020-000
Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Soldente
14650, A	14652, A	35795, A	35934, A	11987, A	170361,	15318, A	22593, A	22592, A	22591, A	31316, A	3257, Ap	3043, Ap	425, App	34924, A	27983, A	7487, Ap	144, App	26637, A	TOUR D

```
NUMBER OF SEQ ID NOS: 61
; SOFTMARE: PatentIn Ver. 2.0
; SEQ ID NO 51
; LENGTH: 21
; TYPE: DNA
; ORGANISM: Fusarium solani
US-10-046-955-51
                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 1
US-10-046-955-51
                                                                                                                                                                                                US-10-046-955-6
                                                                                                                                                                                                                               RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 51, Application US/10046955

GENERAL INFORMATION:
APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for APPLICANT: Control and Prevention
APPLICANT: Morrison, Christine J.
APPLICANT: Reiss, Errol
APPLICANT: Aidorevich, Liliana
APPLICANT: Choi, Jong Soo
Sequence 6, Application US/10046955
SEQUENCE 1, Application US/10046955
GENERAL INFORMATION:
APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for APPLICANT: Control and Prevention APPLICANT: Morrison, Christine J.
                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 100.0%; Score 21; DB 7; Length 21; Best Local Similarity 100.0%; Pred. No. 0.15; Matches 21; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR PRIOR APPLICATION NUMBER: US 09/423,230
PRIOR APPLICATION NUMBER: US 09/423,230
PRIOR APPLICATION NUMBER: US 09/423,230
PRIOR APPLICATION NUMBER: US 09/423,230
PRIOR FILING DATE: 1998-05-01
PRIOR FILING DATE: 1998-05-02
                                                                                                                                                                                                                                                                                                           ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                         0
```

```
RESULT 4
US-10-027-632-136133
; Sequence 136133, App.
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                        ; NAME/KEY: misc_feature; LOCATION: 1..510
; OTHER INFORMATION: Ceres Seq. ID 1390380
US-09-620-393B-5270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-620-393B-5270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     : LENGTH: 319
: TYPE: DNA
: ORGANISM: Fusarium solani
US-10-046-955-6
                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 5270, Application US/09620393B
GENERAL INFORMATION:
APPLICANT: ALEXANDROV, Nickolai et al.
                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/09/620,393B
CURRENT FILING DATE: 2000-07-21
NUMBER OF SEQ ID NOS: 9948
SOFTWARE: PatentIn version 3.0
SEQ ID NO 5270
LENGTH: 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Choi, Jong Soo
TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and
TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2000-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR PILICATION NUMBER: US 09/423,233
PRIOR FILING DATE: POT/US98/08926
PRIOR FILING DATE: 1999-05-01
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR PILING DATE: 1999-05-02
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR PILING DATE: 1999-05-02
PRIOR PILING DATE: 1999-05-02
PRIOR PILING DATE: 1999-05-02
PRIOR PILING DATE: 1999-05-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: SEQUENCE-DETERMINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTIDES TITLE OF INVENTION: THEREBY FILE REFERENCE: 2750-1068P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE:
APPLICANT: Wang, David G
                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: any n -
                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: misc_feature
LOCATION: 1..510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            222 ctaacacctcgcaactggaga 242
                                                                                                                                                 37 cacctcgcaactggaga 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 ctaacacctcgcaactggaga 21
                                                                                                                                                                  5 cacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Reiss, Errol
Aidorevich,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                  81.0%; Score 17; ilarity 100.0%; Pred. No. Conservative 0; Mismatc
                                       Application US/10027632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 21; DB 7
100.0%; Pred. No. 0.19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Liliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                               g, c, t, unknown, or other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                      DB 5;
29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 7; Length 319,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                    .;
                                                                                                                                                                                                                                                                          Length 510;
                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                    0
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: Human US-10-027-632-136133
; ORGANISM: Human US-10-027-632-136134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 5
US-10-027-632-136134
                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/10/027,632
CURRENT FILING DATE: 2002-04-30
PRIOR APPLICATION NUMBER: US 60/218,006
PRIOR FILING DATE: 2000-07-12
PRIOR PPLICATION NUMBER: US 60/198,676
PRIOR PRIOR APPLICATION NUMBER: US 60/193,483
PRIOR PILING DATE: 2000-03-29
PRIOR FILING DATE: 2000-03-24
PRIOR PILING DATE: 1999-11-23
PRIOR PILING DATE: 1999-11-23
PRIOR APPLICATION NUMBER: US 60/156,358
PRIOR APPLICATION NUMBER: US 60/156,358
PRIOR APPLICATION NUMBER: US 60/16,358
PRIOR APPLICATION NUMBER: US 60/146,002
PRIOR FILING DATE: 1999-09-28
PRIOR FILING DATE: 1999-08-09
PRIOR FILING DATE: 1999-08-09
PRIOR FILING DATE: 1999-08-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: US 60/193,483
PRIOR FILING DATE: 2000-03-29
PRIOR APPLICATION NUMBER: US 60/185,218
PRIOR FILING DATE: 2000-02-24
PRIOR APPLICATION NUMBER: US 60/167,363
PRIOR FILING DATE: 1999-11-23
PRIOR FILING DATE: 1999-09-28
PRIOR FILING DATE: 1999-09-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 60/146,002
PRIOR FILING DATE: 1999-08-09
NUMBER OF SEQ ID NOS: 325720
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 136133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 136134,
                                                                                                        SOFTWARE: FastSEQ
SEQ ID NO 136134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/10/027,632
CURRENT FILING DATE: 2002-04-30
PRIOR APPLICATION NUMBER: US 60/218,006
PRIOR FILING DATE: 2000-07-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR FILING DATE: 2000-07-12
PRIOR APPLICATION NUMBER: US 60/198,676
PRIOR FILING DATE: 2000-04-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: Identification and Mapping of Single Nucleotide
                                                                                                                                                              NUMBER OF SEQ ID NOS: 325720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILE REFERENCE: 108827.129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: Identification and Mapping of Single Nucleotide TITLE OF INVENTION: Polymorphisms in the Human Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Wang,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILE REFERENCE: 108827.129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 499
TYPE: DNA
                                               TYPE: DNA
                                                                               ENGTH: 499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 ctaacacctcgcaactggaga 21
||||| |||| ||||||||
| 55 ctaactcctccccactggaga 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Application US/10027632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          David G
                                                                                                                                    for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77.18;
85.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 16.2;
Pred. No. 78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       w
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
```

Query Match Best Local Similarity Matches 18; Conserv

Conservative

0

Mismatches

ω --

Indels

0

Gaps

0

77.18; 85.78;

Score 16.2; Pred. No. 7

DB

7;

Length 499;

В

55 ctaactcctccccactggaga

21 75

1 ctaacacctcgcaactggaga

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ş
                   CURRENT APPLICATION NUMBER: US/10/027,632
CURRENT FILING DATE: 2002-04-30
PRIOR APPLICATION NUMBER: US 60/218,006
PRIOR APPLICATION NUMBER: US 60/198,676
PRIOR APPLICATION NUMBER: US 60/198,676
PRIOR APPLICATION NUMBER: US 60/193,483
PRIOR APPLICATION NUMBER: US 60/193,483
PRIOR FILING DATE: 2000-03-29
PRIOR APPLICATION NUMBER: US 60/185,218
PRIOR FILING DATE: 2000-02-24
PRIOR FILING DATE: 1999-11-23
PRIOR APPLICATION NUMBER: US 60/167,363
PRIOR APPLICATION NUMBER: US 60/156,358
PRIOR APPLICATION NUMBER: US 60/156,358
PRIOR APPLICATION NUMBER: US 60/156,358
PRIOR APPLICATION NUMBER: US 60/16,358
PRIOR APPLICATION NUMBER: US 60/146,002
PRIOR FILING DATE: 1999-09-28
PRIOR FILING DATE: 1999-08-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-027-632-259446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; ORGANISM: Human
US-10-027-632-259445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT FILING DATE: 2002-04-30
PRIOR APPLICATION NUMBER: US 60/218,006
PRIOR APPLICATION NUMBER: US 60/218,006
PRIOR FILING DATE: 2000-07-12
PRIOR APPLICATION NUMBER: US 60/198,676
PRIOR FILING DATE: 2000-04-20
PRIOR FILING DATE: 2000-04-20
PRIOR APPLICATION NUMBER: US 60/193,483
PRIOR FILING DATE: 2000-03-29
PRIOR APPLICATION NUMBER: US 60/185,218
PRIOR FILING DATE: 2000-02-24
PRIOR APPLICATION NUMBER: US 60/167,363
PRIOR APPLICATION NUMBER: US 60/167,363
PRIOR APPLICATION NUMBER: US 60/167,363
PRIOR FILING DATE: 1999-11-23
PRIOR FILING DATE: 1999-11-23
PRIOR FILING DATE: 1999-09-28
PRIOR FILING DATE: 1999-09-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-027-632-259445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 259445, App. GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 259446, Application US/10027632 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 259445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Wang, David G. TITLE OF INVENTION: Identification and Mapping of Single Nucleotide TITLE OF INVENTION: Polymorphisms in the Human Genome FILE REFERENCE: 108827.129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILE REFERENCE: 108827.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: Identification and Mapping of Single Nucleotide TITLE OF INVENTION: Polymorphisms in the Human Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Wang, David G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: US 60/146,002 PRIOR FILING DATE: 1999-08-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           496 cttaccccttgcaactggaga 516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1037
SEQ ID NOS: 325720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Application US/10027632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77.1%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 16.2;
Pred. No. 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DΒ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 1037;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
```

```
; TYPE: DNA
; ORGANISM: Human
US-10-027-632-259446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; ORGANISM: Human US-10-027-632-259447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                          RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-027-632-259447
                                                                                                                                                                                                                                         PCT-US02-15982-8
                                                                                                                                                                                                Sequence 8, Application PC/TUS0215982 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: FastSEQ for Windows Version SEQ ID NO 259446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 18; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 259447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 259447,
                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
                                   APPLICANT: Damagnez, Veronique
APPLICANT: Robinson, John
APPLICANT: Yaworsky, Paul
TITLE OF INVENTION: Reagents and Method for Modulating DKK-Mediated Interactions
FILE REFERENCE: 032796-132
                                                                                             APPLICANT: Bhat, Bheem APPLICANT: Damagnez, V. APPLICANT: Robinson, Ju
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: US 60/156,358
PRIOR FILING DATE: 1999-09-28
PRIOR APPLICATION NUMBER: US 60/146,002
PRIOR FILING DATE: 1999-08-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US 60/193,483 PRIOR FILING DATE: 2000-03-29 PRIOR APPLICATION NUMBER: 60/185,218 PRIOR FILING DATE: 2000-02-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/10/027,632 CURRENT FILING DATE: 2002-04-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: Identification and Mapping of Single Nucleotide TITLE OF INVENTION: Polymorphisms in the Human Genome
CURRENT APPLICATION NUMBER: PCT/US02/15982 CURRENT FILING DATE: 2002-05-17
                                                                                                                                                       APPLICANT: Allen, Kristina M. APPLICANT: Anisowicz, Anthony
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS: 325720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: US 60/167,363 PRIOR FILING DATE: 1999-11-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR EILING DATE: 2000-04-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: US 60/218,006 PRIOR FILING DATE: 2000-07-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILE REFERENCE: 108827.129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Wang,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ENGTH: 1037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ENGTH: 1037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             496 cttaccccttgcaactggaga 516
                                                                                                                                                                                                                                                                                                                  496 cttaccccttgcaactggaga 516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                      1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                1 Similarity
18; Conserv
                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/10027632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      David G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77.18;
85.78;
                                                                                                                                                                                                                                                                                                                                                                                                                 77.18;
85.78;
                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 16.2;
Pred. No. 83;
                                                                                                                                                                                                                                                                                                                                                                                                                 Score 16.2;
Pred. No. 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                      DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                    7;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1037;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 1037;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Caps
                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
```

```
Sequence 8, Application US/09544398B; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Little, Randall D.
APPLICANT: Little, Randall D.
APPLICANT: APPLICANT: APPLICANT: Recker, Robert R.
APPLICANT: Johnson, Mark L.
TITLE OF INVENTION: High bone mass gene of 11q13.3
FILE REFERENCE: 032796-013
CURRENT APPLICATION NUMBER: US/09/544,398A
CURRENT APPLICATION NUMBER: US 09/229,319
PRIOR APPLICATION NUMBER: US 09/229,319
PRIOR FILING DATE: 1999-01-13
PRIOR APPLICATION NUMBER: US 60/071,449
PRIOR APPLICATION NUMBER: US 60/075,511
PRIOR APPLICATION NUMBER: US 60/105,511
PRIOR APPLICATION NUMBER: US 60/105,511
PRIOR APPLICATION NUMBER: US 60/105,511
PRIOR FILING DATE: 1998-10-23
                                                                                                                                                                                                                                                                                                                                   ; NAME/KEY: unsure
; LOCATION: (33739),(33749),(33758)
; OTHER INFORMATION: Identity of nucleotide sequences
US-09-544-398A-8
                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-544-398A-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              : PRIOR APPLICATION NUMBER: US 60/291,311
; PRIOR FILING DATE: 2001-05-17
; PRIOR APPLICATION NUMBER: US 60/353,058
; PRIOR FILING DATE: 2002-02-01
; PRIOR APPLICATION NUMBER: US 60/361,293
; PRIOR FILING DATE: 2002-03-04
; NUMBER OF SEO ID NOS: 214
; SOFTWARE: PastSEO for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PCT-US02-15982-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 8, Application US/09544398A GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 8
                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Carulli, John P.
APPLICANT: Little, Randall
APPLICANT: Recker, Robert
APPLICANT: Johnson, Mark L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS: 641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25831 ctagcacctctcaactggaca 25851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: unsure LOCATION: (33739),(33749),(33758)
OTHER INFORMATION: Identity of nucleotide sequences at the above locations are unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 33769
TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
                                                                                                                                             25831 ctagcacctctcaactggaca 25851
                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ID NO 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity 85. 
nes 18; Conservative
                                                                                                                                                                                                                                 Local Similarity
les 18; Conserv
                                                                                                                                                                  1 ctaacacctcgcaactggaga 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 ctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    33769
                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                77.1%;
85.7%;
                                                                                                                                                                                                                                                   77.1%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 16.2;
Pred. No. 1
                                                                                                                                                                                                                               Score 16.2; DB 5;
Pred. No. 1.1e+02;
0; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ВВ
                                                                                                                                                                                                                                                                          DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 33769;
                                                                                                                                                                                                                                                                        Length 33769;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                             at the above locations are unknown
                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                   0;
```

```
NAME/KEY: unsure; LOCATION: (33739),(33749),(33758); LOCATION: (33739),(33749),(33758); OTHER INFORMATION: Identity of nucleotide sequences at the above locations are US-09-544-398B-8
US-09-540-210B-34637, Application US/09540210B; GENERAL INFORMATION:
; APPLICANT: Seilhamer, Jeffrey J.
; APPLICANT: Delegeane, Angelo M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                          ; ORGANISM: Caenorhabditis elegans US-60-360-039-29617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 12
US-60-360-039-29617/c
                                                                                                  RESULT
                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Chen, Xianfeng
APPLICANT: Goldman, Barry S.
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
FILE REFERENCE: 38-10(52052)A
CURRENT APPLICATION NUMBER: US/60/360,039
CURRENT FILING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 29617
LENGTH: 341
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 29617, Application US/60360039 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: F
                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: US 09/229,319
PRIOR FILING DATE: 1999-01-13
PRIOR APPLICATION NUMBER: US 60/071,449
PRIOR FILING DATE: 1998-01-13
PRIOR APPLICATION NUMBER: US 60/105,511
PRIOR FILING DATE: 1998-10-23
NUMBER OF SEQ ID NOS: 641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Johnson, Mark L.
TITLE OF INVENTION: High bone mass gene of 11q13.3
FILE REFERENCE: 032796-013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/544,398B CURRENT FILING DATE: 2002-06-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Cao, Yongwei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25831 ctagcacctctcaactggaca 25851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 33769
                                                                                                                                                        71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 ctaacacctcgcaactggaga
                                                                                                                                                    FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Little,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Recker, Robert R.
                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Randall D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               77.1%;
85.7%;
                                                                                                                                                                                                                                                 75.2%;
89.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 16.2;
Pred. No. 1
                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                              Score 15.8; DB 8;
Pred. No. 1.2e+02;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; DB 5;
1.1e+02;
hes 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 33769;
                                                                                                                                                                                                                                                                  Length 341;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                  0
```

Stuart,

```
PRIOR APPLICATION NUMBER: 60/030, PRIOR FILING DATE: October 70 PRIOR APPLICATION PRIOR APPLICATION AP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR
                                                                                                                                                                PRIOR APPLICATION NUMBER: 09/021,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR FILING DATE: November 18, 1997
PRIOR APPLICATION NUMBER: 08/395,244
PRIOR FILING DATE: February 27, 1995
PRIOR APPLICATION NUMBER: 08/722,922
PRIOR FILING DATE: September 27, 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/540,210B CURRENT FILING DATE: 2002-04-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: POLYNUCLEOTIDES OF URINARY TRACT TISSUE FILE REFERENCE: PD-1037 CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DR FILING DATE: July 31, 1996
DR APPLICATION NUMBER: 08/862,178
DR FILING DATE: May 22, 1997
DR APPLICATION NUMBER: 60/018,217
DR FILING DATE: May 23, 1996
DR APPLICATION NUMBER: 08/881,589
                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: 08/826
FILING DATE: April 10, 1997
                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 60 FILING DATE: April 10,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: 1997
APPLICATION NUMBER: 60/025,478
APPLICATION NUMBER: 1996
FILING DATE: July 31, 1996
FILING DATE: July 31, 1996
FILING DATE: July 31, 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 08/903,802 FILING DATE: July 31, 1997 APPLICATION NUMBER: 60/023,308 FILING DATE: July 31, 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 60/005,526
FILING DATE: September 29, 1995
APPLICATION NUMBER: 79, 1995
FILING DATE: February 10, 1998
APPLICATION NUMBER: 60/039,325
FILING DATE: February 13, 1997
APPLICATION NUMBER: 09/035,172
                                                                                                                                                                                                       APPLICATION NUMBER: 60/007,495 FILING DATE: November 22, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: 60/026,598 FILING DATE: September 24, 199 APPLICATION NUMBER: 08/960,746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 08/905,881
FILING DATE: August 1, 1997
APPLICATION NUMBER: 60/255,204
FILING DATE: August 1, 1996
APPLICATION NUMBER: 08/903,471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: April 10, 1996
APPLICATION NUMBER: 08/903,555
FILING DATE: July 31, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: 60/014,010 FILING DATE: March 25, 1996 APPLICATION NUMBER: 08/826,847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: 08/972,899 FILING DATE: November 18, 1997
                                                                                                                                                                                                                                                                                   FILING DATE: November
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: April 10, 1997
APPLICATION NUMBER: 60/015,533
                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: 08/755,524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: F1LING DATE: June 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: March 25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: June 24,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mullahy, Sara J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Naughton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         June 25, 1990
NUMBER: 08/903,802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Laura L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rebecca
                                                                                                                                                                                                                                                                                                                                                                        60/015,533
10, 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60/021,275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60/023,308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08/824,029
25, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                   1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ħ
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; NAME/KEY: misc_feature
; OTHER INFORMATION: Inc:
US-09-540-210B-34637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS: 35654
SOFTWARE: PERL Program
SEQ ID NO 34637
LENGTH: 294
TYPE: DNA
ORGANISM: Rattus norvegicus
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-027-632-224405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/10/027,632
CURRENT FILING DATE: 2002-04-30
PRIOR APPLICATION NUMBER: US 60/218,006
PRIOR FILING DATE: 2000-07-12
PRIOR APPLICATION NUMBER: US 60/198,676
PRIOR FILING DATE: 2000-04-20
PRIOR APPLICATION NUMBER: US 60/193,483
PRIOR FILING DATE: 2000-03-29
PRIOR FILING DATE: 2000-03-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 224405, App. GENERAL INFORMATION:
SEQ ID NO 224405
LENGTH: 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local 9
                                      PRIOR FILING DATE: 1999-08-09
NUMBER OF SEQ ID NOS: 325720
SOFTWARE: FASTSEQ for Windows
                                                                                                                              PRIOR APPLICATION NUMBER: US 60/185,218
PRIOR FILING DATE: 2000-02-24
PRIOR APPLICATION NUMBER: US 60/167,363
PRIOR FILING DATE: 1999-11-23
PRIOR APPLICATION NUMBER: US 60/156,358
PRIOR FILING DATE: 1999-09-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Wang, David G.
TITLE OF INVENTION: Identification and Mapping of Single Nucleotide
TITLE OF INVENTION: Polymorphisms in the Human Genome
FILE REFERENCE: 108827.129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: 60/049,975
PRIOR FILING DATE: June 13, 1997
NUMBER OF SECTION 11, 1997
                                                                                                           PRIOR APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OR APPLICATION NUMBER: 60/040,199
OR FILING DATE: MATCH 14, 1997
OR APPLICATION NUMBER: 09/050,817
OR FILING DATE: MATCH 30, 1998
OR APPLICATION NUMBER: 60/043,792
OR FILING DATE: MATCH 11, 1997
OR APPLICATION NUMBER: 09/074,999
OR FILING DATE: May 8, 1998
OR APPLICATION NUMBER: 00/048,431
OR FILING DATE: May 29, 1997
OR APPLICATION NUMBER: 09/107,592
OR FILING DATE: June 30, 1998
OR APPLICATION NUMBER: 09/052,751
OR FILING DATE: June 30, 1997
OR APPLICATION NUMBER: 60/052,751
OR FILING DATE: June 30, 1997
OR APPLICATION NUMBER: 60/052,751
OR FILING DATE: June 30, 1997
OR APPLICATION NUMBER: 60/094,079
OR APPLICATION NUMBER: 60/094,079
OR APPLICATION NUMBER: 60/094,079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 l Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ILING DATE: March 12,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/10027632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER: 60/040,431 : March 5, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            March 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Incyte ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      72.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09/041,894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21
                                                                                                           60/146,002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       No: rat00084384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 15.2; DB 5;
Pred. No. 2.6e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 294;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
```

ORGANISM: Human

```
Sequence 20739 Application US/10027632

Sequence 20739, Application US/10027632

Sequence 20739, Application US/10027632

GENERAL INFORMATION: David G.

APPLICANT: Wang, David G.

TITLE OF INVENTION: Polymorphisms in the Human Genome FILE REFERENCE: 108827.129

CURRENT OF INVENTION: Polymorphisms in the Human Genome FILE REFERENCE: 108827.129

CURRENT FILING DATE: 2000-04-30

PRIOR PICHING DATE: 2000-04-30

PRIOR PICHING DATE: 2000-07-12

PRIOR PICHING DATE: 2000-04-20

PRIOR APPLICATION NUMBER: US 60/198.676

PRIOR PICHING DATE: 2000-04-20

PRIOR PICHING DATE: 2000-04-30

PRIOR PICHING DATE: 2000-03-29

PRIOR APPLICATION NUMBER: US 60/193,483

PRIOR APPLICATION NUMBER: US 60/193,483

PRIOR APPLICATION NUMBER: US 60/185,218

PRIOR APPLICATION NUMBER: US 60/185,218

PRIOR APPLICATION NUMBER: US 60/185,358

PRIOR APPLICATION NUMBER: US 60/185,358

PRIOR APPLICATION NUMBER: US 60/156,358

PRIOR APPLICATION NUMBER: US 60/156,358

PRIOR FILING DATE: 1999-09-28

PRIOR FILING DATE: 1999-09-28

PRIOR FILING DATE: 1999-08-09

NUMBER OF SECO ID NOS: 325720

SEQ ID NO 20739

LENGTH: 723

TYPE: DNA

ORGANISM: Human

US-10-027-632-20739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  당
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-027-632-224405
                                                                                                                                                                                       ş
Search completed: August 22, 2002, 00:51:01 Job time: 11901 sec
                                                                                                                                                                                                                                            Query Match 72.4%; Score 15.2; DB 7; Length 723; Best Local Similarity 85.0%; Pred. No. 2.8e+02; Matches 17; Conservative 0; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 72.4%; Score 15.2; DB 7; Length 598; Best Local Similarity 85.0%; Pred. No. 2.7e+02; Matches 17; Conservative 0; Mismatches 3; Indels
                                                                                                                         0;
                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                       0;
```

```
NAME/KEY: misc_feature;
LOCATION: 467..503
COTHER INFORMATION: /note= "5' end of large subunit;
OTHER INFORMATION: rRNA gene"
US-08-887-480-83
8 8
                                           Вþ
                                                                    Q
                                                                                                  망
                                                                                                                      Ş
                                                                                                                                                밁
                                                                                                                                                                           á
                                                                                                                                                                                                        망
                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Meigs, J. Timothy
RECISTRATION NUMBER: 38,241
REFERENCE/DOCKET NUMBER: CGC 1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 919-541-8689
INFORMATION FOR SEQ ID NO: 83:
SEQUENCE CHARACTERISTICS:
LENCTH: 503 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                           Ouery Match 54.8%; Score 174.8; DB 1; Length 503; Best Local Similarity 78.0%; Pred. No. 5.4e-47; Matches 248; Conservative 14; Mismatches 37; Indels 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc_feature
LOCATION: 156.312
OTHER INFORMATION: /note-
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
NAME/KEY: misc_feature
LOCATION: 1..9
OTHER INFORMATION: /note= "3' end
OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc_feature LOCATION: 313..466 OTHER INFORMATION: /not FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
NAME/KEY: misc_feature
LOCATION: 10..155
OTHER INFORMATION: /note= "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: 1
ORIGINAL SOURCE:
                                                                                                   302 aatacccgctgaacttaa 319
|||||||||||||||
| 486 AATACCCGCTGAAGGTAA 503
                                                     427
                                                                                                                                                                                                                                                          ORGANISM: Fusarium graminearum INDIVIDUAL ISOLATE: R-8417, R-8422, and R-8546 INDIVIDUAL ISOLATE: (consensus sequence)
                                                  DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGC 1739/PCT/CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                            2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of small subunit
                                                                                                                                                                                                                                                                                                                  Indels 19;
                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                       121
                                                                                                                                                                                                               324
```

Job time: 5698 sec

Search completed: August 21, 2002, 22:12:25

```
Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Total number of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       seq length: seq length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nucleic search, using sw model
               US-10-046-955-6
319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pending_Patents_NA_Main:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21979536 seqs, 10817449327 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          August 22, 2002, 00:39:26;
'Cgn2_6/ptodata/1/pna/US08_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US08_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US08_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US083_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US083_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US083_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US085_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US086_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US086_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US089_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US089_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US090_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US091_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US093_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US093_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US093_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US095B_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US003_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US003_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US003_COMB.seq:*
'Cgn2_6/ptodata/1/pna/US003_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gaaaatgcgataagtaatgt...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /cgn2_6/ptodata/1/pna/PCTUS_COMB.seq:*
/cgn2_6/ptodata/1/pna/US06_COMB.seq:*
/cgn2_6/ptodata/1/pna/US07_COMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ....ggaatacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Search time 8184.59 Seconds (without alignments) 843.235 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                43959072
```

```
/cgn2_6/ptodata/1/pna/US6006_COMB.seq:
/cgn2_6/ptodata/1/pna/US6008_COMB.seq:
/cgn2_6/ptodata/1/pna/US6008_COMB.seq:
/cgn2_6/ptodata/1/pna/US6008_COMB.seq:
/cgn2_6/ptodata/1/pna/US6010_COMB.seq:
/cgn2_6/ptodata/1/pna/US60112_COMB.seq:
/cgn2_6/ptodata/1/pna/US60112_COMB.seq:
/cgn2_6/ptodata/1/pna/US60112_COMB.seq:
/cgn2_5/ptodata/1/pna/US6014_COMB.seq:
/cgn2_6/ptodata/1/pna/US6014_COMB.seq:
/cgn2_6/ptodata/1/pna/US6016_COMB.seq:
/cgn2_6/ptodata/1/pna/US6016_COMB.seq:
/cgn2_6/ptodata/1/pna/US6019_COMB.seq:
/cgn2_6/ptodata/1/pna/US6019_COMB.seq:
/cgn2_6/ptodata/1/pna/US6020_COMB.seq:
/cgn2_6/ptodata/1/pna/US6030_COMB.seq:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /cgn2_6/ptodata/1/pna/US6005_COMB
/cgn2_6/ptodata/1/pna/US6006_COMB
/cgn2_6/ptodata/1/pna/US6007_COMB
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No. 240 231,4 187 183.8 183.2 183.2 180.4 1176.4 1177.8 1174.8 1174.8 1174.8 1174.8 118.6 118. 319 241.4 240.4 240.2 Score Query Match Length DΒ 36 US-09-961-755A-7 13 US-09-961-755A-7 13 US-09-961-755A-7 13 US-09-961-797-12 2 US-09-580-797-28 2 US-09-961-755A-6 36 US-09-961-755A-6 36 US-09-961-755A-6 36 US-09-961-755A-6 37 US-08-905-314-22 38 US-09-961-755A-6 39 US-09-961-797-39 39 US-09-961-797-39 39 US-09-580-797-39 39 US-09-580-797-39 39 US-09-580-797-39 IJ Sequence 6, Appli Sequence 7, Appli Sequence 7, Appli Sequence 24, Appli Sequence 18, Appli Sequence 19, Appli Sequence 19, Appli Sequence 19, Appli Sequence 21, Appli Sequence 22, Appli Sequence 22, Appli Sequence 32, Appli Sequence 32, Appli Sequence 34, Appli Sequence 37, Appli Sequence 37, Appli Sequence 37, Appli Sequence 38, Appli Sequence 5, Appli Sequence 37, Appli Sequence 5, Appli Sequence 28, Appli Sequence 29, Appli Sequence 29, Appli Sequence 29, Appli Sequence 39, Appli Sequence 35, Appli Sequence 35, Appli Sequence 35, Appli Sequence 37, Appli Sequence 37, Appli Sequence 39, Appli Sequence 39, Appli Sequence 37, Appli Sequence 37, Appli Sequence 39, Appli Sequenc Description

o

```
RESULT 2
US-09-580-797-10
S-69-580-797-10
Sequence 10, Application US/09580797
GENERAL INFORMATION:
APPLICANT: Iwen, Peter C.
APPLICANT: Hinrichs, Steven H.
                                                                                                                                                                                                                                                                                                                                                                                     Sequence 6, Application US/09423233

GENERAL INFORMATION:
APPLICANT: The Government of the United States of America as TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus S TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 03063-0341MP
CURRENT APPLICATION NUMBER: US/09/423,233

CURRENT FILING DATE: 2000-06-27

NUMBER OF SEQ ID NOS: 61
SOFTMARE: Patentin Ver. 2.0
SEQ ID NO 6
LENGTH: 319
TYPE: DNA
FUSARIEMS FUSARIUM Solani
                                                                                                            ð
                                                                                                                                밁
                                                                                                                                               δ
                                                                                                                                                                      망
                                                                                                                                                                                        ð
                                                                                                                                                                                                            밁
                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                  Б
                                                                                                                                                                                                                                                                   ş
                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 1
US-09-423-233-6
                                                                                                                                                                                                                                                                                                                                                                              US-09-423-233-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ဂ
                                                                                                                                                                                                                                                                                                                            Query Match 100.0%; Score 319; DB 1 Best Local Similarity 100.0%; Pred. No. 3e-84; Matches 319; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                             301
                                                                                                                                241
                                                                                                                                                   241
                                                                                                                                                                      181
                                                                                                                                                                                         181
                                                                                                                                                                                                             121
                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                        -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            113
113
113
113
112.2
111.4
111.4
111.2
111.2
111.2
                                                                                          9agcggcgcggccacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtag
                                                                                                                                                                  aatacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactgga
                                                                                                                                                                             aatacagtggcggtcccgccgccagcttccattgcgtagtagctaacacctcgcaactgga
                                                                                                                                                                                                                   cccccgggcctggcgttggggatcggcgggaagcccctgcgggcacaacgccgtccccca
                                                                                                                                                                                                                                                cattgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcagg
                                                                                                                                                                                                                                                         cattgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            115
113
                                                                                                                              gagcggcgcgccacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtag
                                                                                                                                                                                                          cccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13
22
18
18
18
18
18
18
18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-905-314-23

US-09-980-797-9

US-09-404-520-17184

US-09-580-797-36

US-09-404-520-5963

US-09-404-520-5963

US-09-404-520-5963

US-09-180-797-39

US-60-132-861-7761

US-09-423-233-24

US-09-423-233-24

US-09-423-233-25

US-09-423-233-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                              DB 18; Length 319;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Aspergillus Species
                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17.84, A
36, Appl1
10156, A
5963, Ap
39, Appl
1075, Ap
7761, Ap
7761, Ap
7761, Appl
24, Appl
24, Appl
27, Appl
                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                             180
                                                                                                                                                 300
                                                                                                                                                                   240
                                                                                                                                                                                                         180
                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                           0;
```

```
APPLICANT: Beck, Jim
APPLICANT: Beck, Jim
APPLICANT: Beck, Jim
TITLE OF INVENTION: Detection of Fusarium Species infecting Corn Using
TITLE OF INVENTION: Detection of Fusarium Species infecting Corn Using
TITLE OF INVENTION: Detection of Fusarium Species infecting Corn Using
TITLE OF INVENTION: Detection of Fusarium Species infecting Corn Using
TITLE OF INVENTION: Detection of Fusarium Fusarium Species infecting Corn Using
CURRENT FILING DATE: 2001-09-24
CURRENT FILING DATE: 2001-09-24
NUMBER OF SEQ ID NOS: 24
SOFTWARE: PatentIn version 3.0
SEQ ID NO 7
SEQ ID NO 7
TYPE: DNA
CORANISM: Fusarium proliferatum
US-09-961-755A-7
                                                                                                                                                                                                                                                                                                                                                                           US-09-961-755A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; NAME/KEY: misc_feature
; LOCATION: (0)...(0)
; OTHER INFORMATION: n =
US-09-580-797-10
Query Match
Best Local Similarity
Matches 276; Conserv
                                                                                                                                                                                                                                                                                                                                      Sequence 7, Application GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Henry, Travis
APPLICANT: Board of Regents of the University of Nebraska
TITLE OF INVENTION: Materials and Methods for Molecular
TITLE OF INVENTION: Detection of Clinically Relevant Pathogenic Fungal Species
FILE REFERENCE: UNMC 63149
CURRENT FILING DATE: 2000-05-30
NUMBER OF SEQ ID NOS: 39
SOFTWARE: FASTSEQ for Windows Version 3.0
LENGTH: 563
TYPE: DNA
ORGANISM: Fusarium Solani
FEATURE:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 92.6 Matches 287; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              434
                                                                                                                                                                                                                                                                                                                                                                                                                                                  554 gtaggaatac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatcttttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99a9ag-c99c9c9ccacgcc9taaaacaccccaacttctgaatgttgacctcgaatcag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tacagtggc--ggtcccgccgcagcttccattgcg---tagtagctaacacctcgcaact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cccgggcctggcgttggggatcggcggaagcccctgcgggcacaacgccgtcccccaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gtaggaatac 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99agagaggggggggccacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tacagtggcggggcccgccaaacttccattgcggtanatatactaacacctcgcaaat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 313
                                                                                                                                                                                                                                                                                                                                                                                                                                                    563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          75.7%;
92.6%;
                                                                                                                                                                                                                                                                                                                                                         US/09961755A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   or
Or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 241.4; DB 22; Length Pred. No. 4.3e-61; O; Mismatches 17; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            563;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ښ
```

Conservative

75.48; 87.98;

Score 240.4; DB 36; Pred. No. 8.4e-61; 0; Mismatches 31;

Length

534;

7;

Gaps

۲,

```
RESULT 4

US-09-423-233-7

US-09-423-233-7

Sequence 7, Application US/09423233

GENERAL INFORMATION:

APPLICANT: The Government of the United States of America as TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Specific FILE OF INVENTION: Other Filamentous Fungi

FILE REFERENCE: 03063-0341WP

CURRENT APPLICATION NUMBER: US/09/423,233

CURRENT FILING DATE: 2000-06-27

NUMBER OF SEQ ID NOS: 61

SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ş
                         ş
                                                                                       ô
                                                                                                                         밁
                                                                                                                                                     Ş
                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                    ş
                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 : LENGTH: 310
: TYPE: DNA
: ORGANISM: Fusarium moniliforme
US-09-423-233-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                            밁
                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                     Matches 277;
294
                            303
                                                            234
                                                                                                                          174
                                                                                                                                                          183
                                                                                                                                                                                          121
                                                                                                                                                                                                                         123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                       63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N
                                                                                                                                                                                                                                                                                                                         _
             atacccgctgaacttaa 319
                                                                                                                                                                                                        cccgggcctggcgttggggatcggcggaagcccctgcgggcacaacgccgtcccccaaa 182
                                                                                                                                                                                                                                                     aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aatacccgctgaac 534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aatacccgctgaac 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cgcggcgcggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        agcggcgcgcacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      atctagtggcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     atacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggag 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaa 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                             gcggcgcggcacgcctaaaacacccaacttctgaatgttgacctcgaatcaggtagga 302
                                                                                                                          tctagtggcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtac
                                                                                                                                          tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga
                                                                                                                                                                                         cccgggtttggtgttggggatcggcaagcccttgcggc----aagccggccccgaaa
                                                                                                                                                                                                                                                                                                                    aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ccccgggtttggtgttggggatcggcgagcccttgcggc----aagccggccccgaa
                                                            gcggcgcggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtagga
                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                    75.3%; Score 240.2; DB 18; Length 87.4%; Pred. No. 8.4e-61;
                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                     u
u
,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Species
                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      347
                                                                                                                          233
                                                                                                                                                          242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      287
```

```
Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-905-314-24
                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 24, Application US/08905314 GENERAL INFORMATION:
                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: (919) 541-8689 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,241
REFERENCE/DOCKET NUMBER: CGC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (919) 541-8587
                                                                                                                                                                                                                                    FEATURE:

NAME/KEY: misc_feature

*COATION: 339..504
                                                                                                                                                                                                                                                                                                         FEATURE:
NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS TITLE OF INVENTION: USING THE POLYMERASE CHAIN REACTION NUMBER OF SEQUENCES: 24

CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Patentin Rel CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Beck, James J.
                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE:
                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: 3054 Cornwallis Road
CITY: Research Triangle Park
STATE: NC
                                                                                                                                                   NAME/KEY: misc_feature
LOCATION: 505:.561
OTHER INFORMATION: /note= "5'
OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/08/905,314 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                              LOCATION: 339..50
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                           OTHER INFORMATION: /note-
                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INDIVIDUAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
                                N
Similarity 88.7
82; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20779-2257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E: Novartis Corporation 3054 Cornwallis Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fusarium avenaceum
AL ISOLATE: 64452 /
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_ feature
1..30
                                                                                                                                                                                                                                                                                                           misc_ feature
182..338
                                                                                                                                                                                                                                                                                                                                                                      misc_feature
31..181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA (genomic)
                                                                         75.2%;
88.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                rRNA gene*
                                                                                                                                                                                                                                                                                                                                                        /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Release #1.0,
                                                                                                                                                                                                                                /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                   /note- "3'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and
                                                           Score 240; DB 13;
Pred. No. 1.1e-60;
2; Mismatches 27;
                                                                                                                                                                                                                                 "ITS
                                                                                                                                                                                                                                                                                                                                                        STI.
                                                                                                                                                                                                                                                                                           "5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1944
                                                                                                                                                                    end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R-4045 (consensus sequence)
                                                                                                                                                                                                                                                                                                                                                                                                                                 end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Patent Department
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Version #1.30
                                                                                                                                                                    of large
                                                                                                                                                                                                                                                                                                                                                                                                                                   of.
                                                                                        Length 561;
```

밁

231

2.

```
Ş
                                               ₽
                                                                         ô
                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                      ; LENGTH: 637
; TYPE: DNA
; ORGANISM: FUSARIUM
US-09-580-797-12
밁
                                                                                                     B
                                                                                                                                                         В
                                                                                                                                                                                ş
                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     : Sequence 12, Application US/09580797 ; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 267; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 39
SOFTWARE: FastSEQ for Windows Version
SEQ ID NO 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Iwen, Peter C.
APPLICANT: Hinrichs, Steven H.
APPLICANT: Hinrichs, Steven H.
APPLICANT: Henry, Travis
APPLICANT: Board of Regents of the University of Nebraska
TITLE OF INVENTION: Materials and Methods for Molecular
TITLE OF INVENTION: Detection of Clinically Relevant Pathogenic Fungal Species
FILE REFERENCE: UNMC 63149
CURRENT APPLICATION NUMBER: US/09/580,797
CURRENT FILING DATE: 2000-05-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -09-580-797-12
                          302
                                                                                                      513
                                                                                                                                182
                                                                                                                                                          460
                                                                                                                                                                                                                                                             340 aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                                                                                                                                    122
                                                                                                                                                                                                               400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         291
                                                                                                                                                                                                                        62 attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  62
                                                                                                                                                                                                                                                                             2 aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac 61
              aatac 306
|||||
                                              atacagtggcggtcccgccgccgcttccattgcgtagtagctaacacctcgcaactggag
                                                                                                                                                                       atctagtggcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggta
                                                                                                                                                                                                            attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      atacagtggcggtcccgccgcagcttccattgcgtagtagctaaccacctcgcaactggag
                                                                                                                                                      ccccgggtttggtgttggggatcggcgagcccttgcggc----aagccggccccgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        agcggcgcggccacgccgtaaaaacaccccaacttctgaatgttgacctcgaatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGCGCGCCATGCCGTAAAAC-CCCAACTTCTGAATGTTGACCTCGGATCAGGTAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCCGGGTTTGGTGTTTGGGGATCGGCTCTGCCTTMYGGCGG-----TGCCGCCCCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                      monilliformes
                                                                                                                                                                                                                                                                                                                                  72.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000-05-30
                                                                                                                                                                                                                                                                                                                    Score 231.4; DB 22
Pred. No. 4.2e-58;
0; Mismatches 31;
                                                                                                                                                                                                                                                                                                                                               DB 22;
                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                   Gaps
                                                                         301
                                                                                                                                                        512
                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                399
                                                                                                                             241
                                                                                                                                                                                                            459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
```

```
Sequence 28, Application US/09580797
GENERAL INFORMATION:
APPLICANT: INFORMATION:
APPLICANT: Hinrichs, Steven H.
APPLICANT: Hinrichs, Steven H.
APPLICANT: Henry, Travis
APPLICANT: Board of Regents of the University of Nebraska
TITLE OF INVENTION: Materials and Methods for Molecular
TITLE OF INVENTION: Detection of Clinically Relevant Pathogen
FILE REFERENCE: UNMC 63149
CURRENT APPLICATION UNMBER: US/09/580,797
CURRENT FILING DATE: 2000-05-30
NUMBER OF SEQ ID NOS: 39
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 28
LENGTH: 672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; TYPE: DNA; ORGANISM: Cylindrocarpon US-09-580-797-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-905-314-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-580-797-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 19, Application US/08905314 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 237
                 APPLICATION NUMBER: US/0 FILING DATE: CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                             SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
ODERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Beck, James J.

TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS TITLE OF INVENTION: USING THE POLYMERASE CHAIN REACTION NUMBER OF SEQUENCES: 24
                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      591 acagcgtggccacgccgttaaaccccccacttctgaaaggt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   243 gcggcgcggccacgccgtaaaacacccaacttctgaatgtt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360 aaatgogataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         58.6%;
Local Similarity 84.3%;
hes 237; Conservation
                                                                                                                                                                                                                           COUNTRY: USA
ZIP: 20779-2257
                                                                                                                                                                                                                                                                                    STREET: 3054 Cc
CITY: Research
                                                                                                                                                                                                                                                                                                                               ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaaa 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tatagtggcggtctcgctgtagcttcctctgcgtagtagcacacctcgc---actggaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cccgggcttggtgttggagatcggcgtgccccccggggcg-----cgccggctcccaaa
Meigs,
                                                                                                                                                                                                                                                                     R
                                                                                                                                                                                                                                                                                E: Novartis Corporation 3054 Cornwallis Road Research Triangle Park
                                                                              US/08/905,314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 187; DB 22;
Pred. No. 6.9e-45;
0; Mismatches 35;
                                                                                                                                                                                                                                                                                                                             Patent Department
                                                                                                                     Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Relevant Pathogenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fungal Species
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62
```

<u>ب</u>

```
RESULT 9
US-09-961-755A-5
                                                                     밁
                                                                                            ş
                                                                                                                        В
                                                                                                                                             Ş
                                                                                                                                                                           В
                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-905-314-19
                                                                                                                                                                                                                                                                                                                                                                                               Query Match 57.6
Best Local Similarity 81.5
Matches 255; Conservative
Sequence 5, Application US/09961755A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (919) 541-8689
INFORMATION FOR SEO ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 504 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION: TELEPHONE: (919) 541-8587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                         433
                                                                                                                                                                                                         182
                                                                                                                                                                                                                                                             122
                                                                     492
                                                                                              302
                                                                                                                                                   242
                                                                                                                                                                              373
                                                                                                                                                                                                                                    331
                                                                                                                                                                                                                                                                                                                                           271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: misc_ feature
LOCATION: 1..12
OTHER INFORMATION: /note= "3'
OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LOCATION: 473..504
OTHER INFORMATION: /note= "5'
OTHER INFORMATION: rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Fusarium culmorum
INDIVIDUAL ISOLATE: R-5106, R-5126, and R-5146
INDIVIDUAL ISOLATE: (consensus sequence)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: nucleic
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: misc_feature LOCATION: 319..472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: misc_feature LOCATION: 162..318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: misc_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                    aatacccgctgaa 314
                                                                                                                                      agcggcgcggccacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagg
                                                                                                                                                                                            atacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggag
                                                                                                                                                                                                                                                  ccccgggcctggcgttggggatcggcgggaagccccctgcgggcacaacgccgtcccccaa 181
                                                                                                                        ATCGTCGCGGCYACGCCGTTAAAC - CCCAACTTCTGAATGTTGACCTCGGATCAGGTAGG
                                                                                                                                                                            ATACATTGGCGGTCACGTCGRAGCTTCCATAGCGTAGTAATTTACATATCGTTACTGGTA 432
                                                                                                                                                                                                                                 CC---AGCTTGGTGTTGGGAGCTG-------CAGTCCTGCTGCACTCCCCAA
                                                                   AATACCCGCTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
13..161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             single
                                                                   504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         feature
                                                                                                                                                                                                                                                                                                                                                                                                               57.6%;
81.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  38,241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGC 1944
                                                                                                                                                                                                                                                                                                                                                                                                 Score 183.8; DB 13; Length 504;
Pred. No. 5.7e-44;
1; Mismatches 38; Indels 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "5.8S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             end of large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rRNA gene'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of small subunit
                                                                                                                                                                                                                                                                                                                                                                                                  19;
                                                                                                                        491
                                                                                                                                                 301
                                                                                                                                                                                                      241
                                                                                                                                                                                                                                 372
                                                                                                                                                                                                                                                                                                                                           270
                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                 Ψ
```

```
NUMBER OF SEQ ID NOS: 24
SOFTWARE: Patentin version 3.0
SEQ ID NO 5
LENGTH: 522
TYPE: DNA
OGRANISM: Fusarium subglutinans
US-09-961-755a-5
                                    Ş
     밁
                                                                                                                                                           ; TYPE: DNA
; ORGANISM: Fusarium
US-09-961-755A-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-961-755A-8
                                                                                                                                                                                                        APPLICANT: Beck, Jim
APPLICANT: Barnett, Jason
APPLICANT: Barnett, Jason
TITLE OF INVENTION: Detection of Fusarium Species infecting Corn Using
TITLE OF INVENTION: Polymerase Chain Reaction
FILE REFERENCE: 60055
CURRENT APPLICATION NUMBER: US/09/961,755A
CURRENT FILING DATE: 2001-09-24
RUMBER OF SEQ ID NOS: 24
SOFTWARE: PatentIn version 3.0
SEQ ID NO 8
LENGTH: 522
                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 8, Application US/09961755A GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 262; Conserv
                                                                        Matches
                                                                                          Best
                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/09/961,755A CURRENT FILING DATE: 2001-09-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: Detection of Fusarium Species infecting Corn Using the TITLE OF INVENTION: Polymerase Chain Reaction FILE REFERENCE: 60055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Beck, Jim APPLICANT: Barnett, Jason
     228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               302 aatacccgctgaac 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            450 atcgtcgcggccacgccgttaaac-cccaacttctgaatgttgacctcggatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             509 aatacccgctgaac 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  348 cc---agcttggtgttgggactc-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      288 attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagc
                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         228 aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       62 attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc 121
                  2 aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              agcggcgcgccacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 atacagtggcggtcccgccgcagcttccattgcgtagtagctaaccacctcgcaactggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 attgattggcggtcacgtcg-agcttccatagcgtagtagtaaaaccctcgttactggta
aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac 287
                                                                        262;
                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                        verticillioides (syn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              57.4%;
83.4%;
                                                                                   57.48;
                                                                    <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 183.2; DB 30;
Pred. No. 8.7e-44;
""Amatches 33;
                                                                  Score 183.2; DB 3
Pred. No. 8.7e-44;
0; Mismatches 33
                                                                                                                                                                         F. moniliforme)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -gcgagtcaaatcgcgttccccaa
                                                                                                     DB 36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 36;
                                                                    33
..
                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19;
                                                                    19;
                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     390
                                                                  4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ۸.
```

```
RESULT 11
US-08-905-314-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 21, Application US/UBYUJJIJA

GENERAL INFORMATION:
APPLICANT: Beck, James J.

TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS
TITLE OF INVENTION: USING THE POLYMERASE CHAIN REACTION
NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                            TELEFAX: (919) 541-8689
INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
LENGTH: 545 base pairs
                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,241
REFERENCE/DOCKET NUMBER: CGC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (919) 541-8587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                     FEATURE:
                                                                                                                                                                                                          MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                                                                     ORGANISM: Fusarium moniliforme
INDIVIDUAL ISCLATE: 4551
IMMEDIATE SOURCE:
CLONE: PCRFMON1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        348
                                                                                                                                                                                                                                                        LENGTH: 545 base pair
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           302 aatacccgctgaac 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          391 attgattggcggtcacgtcg-agcttccatagcgtagtagtaaaaccctcgttactggta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     122 ccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtccccaa
                                                NAME/KEY: misc_feature LOCATION: 1..30
OTHER INFORMATION: /note OTHER INFORMATION: rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             182 atacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     288 attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        509 aatacccgctgaac 522
 NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62 attgcgcccgccagtattcctggcgggcatgcctgttcgagcgtcattacaaccctcaggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             agcggcgcggccacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           atcgtcgcggccacgccgttaaac-cccaacttctgaatgttgacctcggatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cc---agcttggtgttgggactc------gcgagtcaaatcgcgttccccaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20779-2257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Research Triangle Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N
C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E: Novartis Corporation 3054 Cornwallis Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                                                                                                                                                                                             linear
misc_feature 31..178
                                                                                                                                                                                                                             DNA (genomic)
                                                  /note= "3'
rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US/08/905,314
                                                                                                                                                                                                                                                                                                                                                                                                         CGC 1944
                                                                  end of small subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       347
```

```
US-08-905-314-22
US-08-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; NAME/KEY: misc_feature
; LOCATION: 489..545
; OTHER INFORMATION: /note= "5' end of large subunit;
OTHER INFORMATION: rRNA gene"
US-08-905-314-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                        COUNTRY: USA
ZIP: 20779-2257
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
   ATTORNEY/AGENT INFORMATION: NAME: Meigs, J. Timothy REGISTRATION NUMBER: 38,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   182 atacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggag 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 228 AAAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCAC 287
                                                                                                                        APPLICATION NUMBER: FILING DATE:
                                                                                               CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Novartis Corporation
STREET: 3054 Cornwallis Road
CITY: Research Triangle Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: Novartal Sammerer: 3054 Cornwallis
                                                                                                                                                                                                                                                                                                                                                                                                                                   STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
mes 262; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 agcggcgcgccacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aatacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ccccgggcctggcgttggggatcggcgggaagccccctgcgggcacaacgccgtcccccaa 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AATACCCGCTGAACTTAA 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATACATTGGCGGTCACGTCG-AGCTTCCATAGCGTAGTAATTTACACATCGTTACTGGTA 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CC---AGCTTGGTGTTGGGAGCTG------CAGTCCTGCTGCACTCCCCAA 389
                                                                                                                                                                                                                                                                                                                                                                                                                                   NC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
336..488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_ feature
179..335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       James J
Timothy
BER: 38,241
                                                                                                  435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             56.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note-
                                                                                                                                                        US/08/905,314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 180.4; DB 13; Pred. No. 6e-43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "5.8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patent Department
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PATHOGENS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         545;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
```

```
OTHER INFORMATION:
OTHER INFORMATION:
US-08-905-314-22
                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                              8
밁
                    õ
                                          В
                                                                      Ş
                                                                                                     В
                                                                                                                        Q
                                                                                                                                                      Вb
                                                                                                                                                                               Š
                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                      ô
                                                                                                                                                                                                                                                                                                                   Query Match 56.4%;
Best Local Similarity 82.4%;
Matches 262; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:

NAME/KEY: misc_feature
LOCATION: 1.30
OTHER INFORMATION: /note=
OTHER INFORMATION: rRNA g
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (919) 541-86
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 546 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION: TELEPHONE: (919) 541-8587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IMMEDIATE SOURCE:
    CLONE: pCRFpoaeT427(1-2), pCRFpoaeT534(2-2),
    CLONE: pCRFpoaeT756(3-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE:
                                                   450
                                                                                                       391
                                                                                                                                182
                                                                                                                                                                                   122
                                                                                                                                                                                                              290
                                                                                                                                                                                                                                                               230
                          302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY:
LOCATION:
509
                                                                                                                                                                                                            NAME/KEY: misc_feature LOCATION: 181..337 OTHER INFORMATION: /note
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: misc_feature LOCATION: 31..180
OTHER INFORMATION: /noi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Fusarium poae INDIVIDUAL ISOLATE: T-427, T-534, and INDIVIDUAL ISOLATE: sequence)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
                                                                                                                                                                                                                                                              atacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggag
                                                                                                                                                                       ccccgggccttggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaa 181
                       aatacccgctgaacttaa 319
                                                                 agcggcgcgcacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtagg 301
                                                                                                      ATTGATTGGCGGTCACGTCG-AGCTTCCATAGCGTAGTAATTTACACATCGTTACTGGTA 449
AATACCCGCTGAACTTAA 526
                                                   ATCGTCGCGGCCACGCCGTTAAAC-CCCAACTTCTGAATGTTGACCTCGGATCAGGTAGG
                                                                                                                                                          CC---AGCTTGGTGTTGGG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (919)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
338..489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9) 541-8689
) 541-8689
NO: 22:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "3'
rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                /note= "5' end
rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGC 1944
                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                  Score 180; DB 13; Pred. No. 7.9e-43;
                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of
                                                                                                                                                          ----ATCTGTGTGCAAACACAGTCCCCAA
                                                                                                                                                                                                                                                                                                                                                                                                               of large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          small
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  T-756 (consensus
                                                                                                                                                                                                                                                                                                                                              Length 546;
                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                        21;
                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                            390
                                                                                                                                                                                                                                                                  289
                                                                                                                                  241
```

```
οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                           RESULT 14
US-08-905-314-20
; Sequence 20, Application US/08905314
; GENERAL INFORMATION:
; APPLICANT: Beck, James J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-961-755A-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-961-755A-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 6
LENGTH: 521
TYPE: DNA
ORGANISM: Gibberella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 258; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 6, Application US/09961755A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Beck, Jim
APPLICANT: Bernett, Jason
APPLICANT: Barnett, Jason
TITLE OF INVENTION: Detection of Fusarium Species infecting Corn Using
TITLE OF INVENTION: Polymerase Chain Reaction
FILE REFERENCE: 60055
CURRENT APPLICATION NUMBER: US/09/961,755A
CURRENT FILING DATE: 2001-09-24
NUMBER OF SEQ ID NOS: 24
SOFTWARE: Patentin version 3.0
                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: DETECTION OF WHEAT FUNGAL PATHOGENS TITLE OF INVENTION: USING THE POLYMERASE CHAIN REACTION NUMBER OF SEQUENCES: 24
                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
CLASSIFICATION:
ATTORNEY/AGENT INF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   182 atacagtggcggtcccgccgcagcttccattgcgtagtagctaaccacctcgcaactggag 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            228 aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                508 aatacccgctgaac 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              390 atacattggcggtcacgtcg-agcttccatagcgtagtaatttacacatcgttactggta 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     288 attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      62 attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaaccctcaggc 121
                                                                                                                                                                                       ZIP:
                                                                                                                                                                                                     COUNTRY:
                                     FILING DATE:
                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                                                 STREET:
                                                                                                                                                                                                                                                                                  ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 aaaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cc---agcttggtgttgggagctg------cagtcctgctgcactcccaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaa 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aatacccgctgaac 315
                                                                                                                                                                                       20779-2257
                                                                                                                                                                                                                                           Research Triangle Park
                                                                                                                                                                                                                             ਨ
ਨ
                                                                                                                                                                                                                                                               E: Novartis Corporation Patent Department
3054 Cornwallis Road
                                                                                                                                                                                                           USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
 INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.3%;
82.2%;
                                                         US/08/905,314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 176.4;
Pred. No. 9.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; DB 36; Length .2e-42; es 36; Indels
                                                                                                #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the
```

4.

```
Ŷ
                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: misc_feature;
LOCATION: 467..503
COTHER INFORMATION: /note= "5' end of large subunit;
OTHER INFORMATION: rRNA gene"
US-08-905-314-20
RESULT 15
US-09-481-293-32
                                                                    Ş
                                                                                              밁
                                                                                                                  ð
                                                                                                                                             В
                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                      ő
                                                В
                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 248; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:

NAME/KEY: misc_ feature
LOCATION: 1.9

OTHER INFORMATION: /note-
OTHER INFORMATION: rRNA g
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: CO
TELECOMMUNICATION INFORMATION
TELEPHONE: (919) 541-8587
TELEFAX: (919) 541-8689
INFORMATION FOR SEQ ID NO: 20:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: misc_feature LOCATION: 313..466 OTHER INFORMATION: /not FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: misc_feature LOCATION: 10..155
OTHER INFORMATION: /not FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 503 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: 1
MOLECULE TYPE:
                                                                                                 427
                                                                                                                                                                                                325
                                                                                                                                                                                                                                                                                                302
                                                                                                                        242
                                                                                                                                                 368
                                                                                                                                                                                                                        122
                                                                                                                                                                                                                                                 265
                                                486
                                                                                                                                                                       182
                                                                                                                                                                                                                                              NAME/KEY: misc_fe
LOCATION: 156..312
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Fusarium graminearum INDIVIDUAL ISOLATE: R-8417, R-8422, and INDIVIDUAL ISOLATE: (consensus sequence)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Meigs, J. Timothy REGISTRATION NUMBER: 38,241
                                                              aatacccgctgaacttaa 319
                                                                                                                                             CC---AGVTTGGTGTKGGGGGARYTGC------AGKCCTRYTKCACTCCCCAA
                                                                                              ccccgggcctggcgttggggatcggcggaagcccctgcgggcacaacgccgtcccccaa
                                                AATACCCGCTGAAGGTAA 503
                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_ feature
156..312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                54.8%; Score 174.8; DB 13; 78.0%; Pred. No. 2.7e-41; tive 14; Mismatches 37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "3' rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGC 1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "ITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "ITS 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R-8422, and R-8546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .8S rRNA gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 end of small subunit
                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                        Length 503;
                                                                                                                                                                                                                                                                                                                                                  19;
                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                      301
                                                                                                                                                                                                                                                                                                  264
                                                                                                                                                                                                                                                                                                                        61
                                                                                                 485
                                                                                                                                                                                                 367
                                                                                                                                                                                                                        181
```

4.

```
; Sequence 32, Application US/09481293
; GENERAL INFORMATION:
   APPLICANT: Beck, James
   APPLICANT: Beck, James
; APPLICANT: Barnett, Jason
; TITLE OF INVENTION: PCR-Based Detection of Rhizoctonia cerealis
; FILE REFERENCE: PB/5-31135P1
; CURRENT APPLICATION NUMBER: US/09/481,293
; CURRENT FILING DATE: 2000-01-11
NUMBER OF SEQ ID NOS: 33
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 32
; LENCTH: 504
; TYPE: DNA
; ORGANISM: Fusarium culmorum
US-09-481-293-32
                                                                                                                                                                                  Qy
Search completed: August 22,
Job time: 13053 sec
                                                                                    Ş
                                                                                                             멍
                                                                                                                                  δÃ
                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                     Ωy
                                                                밁
                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity Matches 253; Conserv
                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                               435
                                                                                                                                                               376
                                                                                                                                                                         182 atacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggag 241
                                                                                                                                                                                                               334
                                                                                                                                                                                                                                        122
                                                                                                                                                                                                                                                            494
                                                                                      302
                                                                                                                                      242
                                                                                                                                                                                                                                                                                       62
                                                                                                           ccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaa 181
                                                             aatacccgctg
                                                                         aatacccgctg 312
                                                                                                                                                            atacattggcggtcacgtcg-agcttccatarcgtagtaatttacatatcgttactggta
                                                                                                                                                                                                              cc---agcttggtgttgggagctg-----cagtcctgctgcactcccaa
                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                         53.7%;
81.4%;
             2002,
                                                                                                                                                                                                                                                                                                                                                                          Score 171.4;
Pred. No. 2.8
           00:39:28
                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                2.8e-40;
ches 37;
                                                                                                                                                                                                                                                                                                                                                                                       DB 18;
                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                20;
                                                                                                              493
                                                                                                                                      301
                                                                                                                                                            434
                                                                                                                                                                                                              375
                                                                                                                                                                                                                                                                333
                                                                                                                                                                                                                                                                                                                273
                                                                                                                                                                                                                                                                                                                                       61
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

ŝ
q
I
z
5
☞
Ħ

Result

Result No.	Score	Query Match	Length	DB	ID	
1	319	100.0	319	7	US-10-046-955-6	
N			310	7	10-046-955-	Sequence 7, Appli
w			652	_	-US02-11769	ى :
4	126.6	39.7	365	7	US-10-046-955-3	
υī	•	8	365	7	0-046-95	Sequence 5, Appli
6	121.2		364	7	10-046-955-	ی ر
7		.7	650	_	T-US02-11769	•
- œ		35.8	641	Ç	US-09-766-173C-4	
. 6	111.2		346	7	US-10-046-955-24	24
10	110.6	34.7	618	S	US-09-766-173C-5	5
<u>.</u>	110.2		34.3	7	-10-046-955-	27
	٠	34.0	344	7	-10-046-955-	26
			536	J.	-09-517-79	
1 4	109.2		346	7	-10-046-95	25
	ROI		309	7	-10-046-95	28,
16	106.4		336	7	-955	29
17	97	30.4	515	Ŋ	-790	
18	97	•	523	u	US-09-517-790-4	4
19	96.4	•	355	7	-955-	4
20	93	29.2	516	G	-09-517-790-	2
21	91.4	•	570	տ	-790-	ω.
22	62	19.4	327	7	-046-955-	10.
23	62	19.4	328	7	-955-	9
24	62	19.4	330	7	US-10-046-955-8	œ :
25	62	19.4	330	7	US-10-046-955-12	12,

		O	,						C	0	n	a	a	o	C	C	c)	
45	44	4		÷		2 4	ă		3 6	ט ני	4 1		3 2	31	2	2 2	0 0	2 ~	3 6
52.4	52.6	52.6	0 4	. 0		. 0	. 0		ı v	יט ו ט וי	ı U	U U	0	5	0	Ü	1 0		10.0
16.4	16.5	16.5	16.9	17.1	17.1	17.1	17.1	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.4	17.0
949	3480	1037	486	3927	1414	0.22	131	4310	2097	2097	2097	2097	2097	2097	2091	2091	1602	322	TIBO
7	œ	7	7	_	٠,	ט נ	G	7	ഗ	u	Ŋ	G	S	Ŋ	5	Ç	U	7	١ -
	US-60-391-781-202	US-10-155-881-2313	US-10-046-955-19	US-10-155-881-16180	US-10-155-881-6537	US-09-975-254-4556	US-09-975-254-5041	US-10-177-253-71	US-09-935-625-26950	US-09-935-625-25913	US-09-935-625-18547	US-09-935-625-17511	US-09-935-625-6116	US-09-935-625-5599	US-09-935-625-25792	US-09-935-625-17457	US-09-935-625-5545	US-10-046-955-11	02-10-158-651-2120
Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence
3328, Ap	202 Ann	2313, Ap	19, Appl	16180, A	6537, Ap	4556, Ap	5041, Ap	71, Appl	26950, A	25913, A	18547, A	17511, A	6116, Ar	5599, AE	25792, A	17457, 7	5545, Ap	11, Appl	2120, Ap

ALIGNMENTS

```
Sequence 6, Application US/10046955

Sequence 6, Application US/10046955

APPLICANT: The Government of the United States of America, as Represented by the Applicant: The Government of the Department of Health and Human Services, Centers for Applicant: Secretary of the Department of Health and Human Services, Centers for Applicant: Control and Prevention

APPLICANT: Control and Prevention

APPLICANT: Reiss, Errol

APPLICANT: Reiss, Errol

APPLICANT: Reiss, Errol

TITLE OF INVENTION: Other Fillamentous Fungi

FILE REFERENCE: 6395-62064

CURRENT APPLICATION NUMBER: US/10/046,955

CURRENT APPLICATION NUMBER: US/10/046,955

PRIOR APPLICATION NUMBER: US 99/423,233

PRIOR FILLING DATE: 2000-06-04

PRIOR APPLICATION NUMBER: PCT/US98/08926

PRIOR APPLICATION NUMBER: PCT/US98/08926
                                                                                            Š
               Ş
                                                               밁
                                                                                                                                       Вþ
                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                            ; TYPE: DNA
; ORGANISM: Fusarium solani
US-10-046-955-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-046-955-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEQ ID NOS: 61
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 6
LENGTH: 319
TURNS
                                                                                                                                                                                                                                                                                                        Query Match 100.0%; Score 319; DB 7; Best Local Similarity 100.0%; Pred. No. 6e-84; Matches 319; Conservative 0; Mismatches 0;
181 aatacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactgga
                                           121 cccccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtccccca
                                                                                                     121
                                                                                                                                                 61
                                                                                                                                                                                       61
                                                                                                                                                                                                                cccccgggcctggcgttggggatcggcggaagccccctgcggggcacaacgccgtccccca 180
                                                                                                                                 cattgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcagg
                                                                                                                                                       caltgogccogccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcagg 120
                                                                                                                                                                                                                                                                                                                                                   DB 7; Length 319;
                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                           Gaps
         240
                                                 180
                                                                                                                                   120
                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                           0
```

```
CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR FILING DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEQ ID NOS: 61
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NO 7
SEQ ID NO 7
LENGTH: 310
                                                                                                                        В
                                                                                                                                                             Ş
                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                  οy
                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                               á
RESULT
                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: Fusarium moniliforme US-10-046-955-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-046-955-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 277;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 7, Application US/10046955 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Aidorévich, Liliana
APPLICANT: Choi, Jong Soo
TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and
TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for Dis APPLICANT: Control and prevention APPLICANT: Morrison, Christine J. APPLICANT: Reiss, Errol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
                                                     294
                                                                                                                                                                                                                                            183
                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 gaatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241 gagcggcgcgcacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtag 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                           63
                                                                                                                      tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga 242
                                                     atacccgctgaacttaa
                                                                    atacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                               cccgggcctggcgttggggatcggcggaagcccctgcgggcacaacgccgtccccaaa 182
                                                                                                                                                                                                                                                                                                                                                                                                                                             aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                                                tctagtggcggtctcgctgcagcttccattgcgtagtagtaaaaccctcgcaactggtac
                                                                                                                                                                                                                                                                                                                                                  ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                      ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                             aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                         cccgggtttggtgttggggatcggcaagcccttgcggc-----aagccggccccgaaa 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gaatacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gagcggcgcggccacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         75.3%;
87.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 240.2; DB 7
Pred. No. 7.9e-61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
```

```
TITLE OF INVENTION: NOVEL ENDOPHYTIC FUNGI AN TITLE OF INVENTION: USE
FILE REFERENCE: AQ 2019.40
CURRENT APPLICATION NUMBER: PCT/US02/11769
CURRENT FILING DATE: 2002-04-11
PRIOR APPLICATION NUMBER: 60/283,902
PRIOR FILING DATE: 2002-03-11
PRIOR APPLICATION NUMBER: 60/363,072
PRIOR APPLICATION NUMBER: 60/363,072
PRIOR APPLICATION NUMBER: 60/363,072
PRIOR APPLICATION NUMBER: 60/363,072
PRIOR FILING DATE: 2001-04-16
NUMBER OF SEQ ID NOS: 4
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-046-955-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PCT-US02-11769-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PCT-US02-11769-2
                                                                                                                                                                                                                                                                                                                                                                                    Sequence 3, Application US/10046955 GENERAL INFORMATION:
CURRENT APPLICATION NUMBER: US/10/046,955 CURRENT FILING DATE: 2002-06-04 PRIOR APPLICATION NUMBER: US 09/423,233 PRIOR FILING DATE: 2000-06-27 PRIOR APPLICATION NUMBER: PCT/US98/08926 PRIOR APPLICATION NUMBER: DCT/US98/08926 PRIOR APPLICATION NUMBER: US 60/045,400
                                                                                                                                                         APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for APPLICANT: Control and Prevention APPLICANT: Morrison, Christine J. APPLICANT: Reiss, Errol APPLICANT: Aldorevich, Liliana APPLICANT: Choi, Jong Soo TITLE OF INVENTION: Other Filamentous Fungi Estermice: 6395-62064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 41.3%;
Best Local Similarity 72.6%;
Matches 230; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 2, Application PC/TUS0211769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Strobel, APPLICANT: Manker,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 652
TYPE: DNA
ORGANISM: Muscodor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            303 atacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    614 atacccgctgaacttaa 630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gcggcgcgccacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gtgattggcggagttggttctcactcta-ggcgtagtaaat-ctatctcgcctctgtagt 554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ttgcgcccattagcattctagtgggcatgcctgttcgagcgtcatttcaccacttaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ggttccggcccctgccgtaaaaccccctatatc-aaaggttgacctcggatcaggtagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cccgggcctggcgttggggatcggcgggaagccccctgcgggcacaacgccgtcccccaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ctgttgcttagcgttgggagcctacggcactgcc-----cgtagctccctaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ENDOPHYTIC FUNGI AND METHODS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 131.8; DB Pred. No. 5.8e-29 0; Mismatches 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       72; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             448
```

```
APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for Dis APPLICANT: Control and Prevention
APPLICANT: Morrison, Christine J.
APPLICANT: Reiss, Errol
APPLICANT: Aldorevich, Liliana
APPLICANT: Choi, Jong Soo
TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and
TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
COURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US/10/046.955
CURRENT FILING DATE: 2000-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR APPLICATION NUMBER: US 60/0423,233
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEO ID NOS: 61
COPTIMARE: DATE: 1997-05-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR FILING DATE: 1997-05-02

NUMBER OF SEQ ID NOS: 61

SOFTWARE: PATENTIN VEr. 2.0

SEQ ID NO 3

LENGTH: 365

TYPE: DNA

ORGANISM: Aspergillus niger
US-10-046-955-3
                                                                                      ; TYPE: DNA
; ORGANISM: Aspergillus nidulans
US-10-046-955-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 5
US-10-046-955-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 5, Application US/10046955 GENERAL INFORMATION:
                                                                                                                                                          SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 5
Best Local Similarity Matches 210; Conserv
                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                            LENGTH: 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             349 atacccgctgaacttaa 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183 tacagiggicggicccgccgcagcitccattgcgtagiagctaacaccicgcaaciggaga 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
nes 205; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3 aaatgogataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaaa 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ttgcgcccctggtattccggggggcatgcctgtccgagcgtcattgctgccctcaagca 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              atacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gcggcgcgcacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagga 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ggcggcaccgcgtccgatcctcgagcgtatggggctttgtcacctgctctgtaggcccgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   aaatgcgataactaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcaca 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ccggcgcctgccgacgttatccaaccatttttttccaggttgacctcggatcaggtaggg 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        c---ggcttgtgtgttgggtcgccgtccccctctcccgggggacgggcccgaaaggcagc
 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                38.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       39.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
0
                  Score 123.2; DB 7; Pred. No. 1.7e-26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 126.6; DB 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches 109;
 Mismatches
                .7e-26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 7;
                                   Length 365;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          365;
Ģ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ω
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      288
2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D
                                                 Š
                                                                                    Дb
                                                                                                                  õ
                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-046-955-2
                                                                                                                                                                                                                                                                                                                                                                       SEQ ID NO 2
LENGTH: 364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 211; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA
                                                                                    112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            112
                                                                                                                       63
                                                                                                                                                          52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                52
                                                                                                                                                                       3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   w
                                                                                                   ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
            acggcttgtgttgtgggcccccgtcccctctcccgggg-----
                                            cccgggcctggcgttggggatcggcggaagcccctgcgggcacaacgccgtccccaaa
                                                                                 ttgcgccccctggtattccggggggcatgcctgtccgagcgtcattgctgcccatcaagc
                                                                                                                                                     aaatgcgataactaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcaca
```

```
; ORGANISM: Aspergillus fumigatus US-10-046-955-2
                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR FILING DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEQ ID NOS: 61
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for APPLICANT: Control and Prevention APPLICANT: Morrison, Christine J. APPLICANT: Reiss, Errol APPLICANT: Reiss, Errol APPLICANT: Aldorevich, Lillana APPLICANT: Choi, Jong Soo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species TITLE OF INVENTION: Other Filamentous Fungi FILE REFERENCE: 6395-62064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cccgggcctggcgttggggatcggcggaagccccctgcgggcacaacgccgtcccccaaa 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ccgggcgccagccggcgtctccaaccttatcttctcaggttgacctcggatcaggtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ggcggcaccggtccggtcctcgagcgtatgggcttggtcacccgctcgattagggccgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aactgcgataagtaatgtgaattgcagaattcagtgaatcatcgagtctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     c----ggcttgtgttgtggtcgtcgtccccccccccgggggacgggcccgaaaggcagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ttgcgccccctggcattccggggggcatgcctgtccgagcgtcattgctgccctcaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Application US/10046955
           Conservative
                                  38.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   365
        0;
Score 121.2; DB /;
Pred. No. 6.7e-26;
"""matches 98;
                                                           Length 364;
        Indels 11;
        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    171
        2
```

-gacgggcccgaaa

182

```
APPLICANT: Manker, Denise

APPLICANT: Manker, Denise

TITLE OF INVENTION: NOVEL ENDOPHYTIC FUNGI AND METHODS OF

TITLE OF INVENTION: USE

FILE REFERENCE: AQ 2019.40

CURRENT APPLICATION NUMBER: PCT/US02/11769

CURRENT FILING DATE: 2002-04-11

PRIOR APPLICATION NUMBER: 60/283,902

PRIOR FILING DATE: 2002-03-11

PRIOR APPLICATION NUMBER: 60/363,072

PRIOR APPLICATION NUMBER: 60/363,072

PRIOR FILING DATE: 2001-04-16
                                                                                                                                                                                                                                                         ş
                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                             á
                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                   US-09-766-173C-4
                                                                                                                                                          밁
                                                                                                                                                                                       ş
                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PCT-US02-11769-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PCT-US02-11769-4
Sequence 4, Application US/09766173C GENERAL INFORMATION:
APPLICANT: CARTOLL, George C.
TITLE OF INVENTION: Materials and Methods For Detection TITLE OF INVENTION: Pathogenic Guignardia Citricarpa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 229; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS: 4
SOFTWARE: FastSEQ for Windows Version
SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 4, Application PC/TUS0211769 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 650
TYPE: DNA
ORGANISM: Muscodor roseus
                                                                                                                                                                                                                           554
                                                                                                                                                                                                                                                                                              496
                                                                                                                                                                                                                                                                                                                                                                448
                                                                                                                                                         613 atacccgctgaacttaa
                                                                                                                                                                         303 atacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                              183
                                                                                                                                                                                                                                                                                                                                                                                              123
                                                                                                                                                                                                                                                                                                                                                                                                                               389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               329 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                284 cccggccggcgccagccgacacccaactttatttttctaaggttgacctcggatcaggta 343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  224 ggcagcggcaccgcgtccggtcctcgagcgtatggggcttgtcacctgctctgtagg
                                                                                                                                                                                                                                                                                                                                                                                                                                             63 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 w
                                                                                                                                                                                                                                                                                           gtgattggcggagttggttctcactcta-ggcgtagtaaat-ctatctcgcctctgtagt
                                                                                                                                                                                                                                                                                                             tacagtggcggtcccgccgccagcttccattgcgtagtagctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                              aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatcttttgaacgcaca
                                                                                                                                                                                                                         ggttccggcccctgccgtaaaaccccctatatc-aaaggttgacctcggatcaggtagga
                                                                                                                                                                                                                                         gcggcgcggccacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtagga
                                                                                                                                                                                                                                                                                                                                                           ctgttgcttagcgttgggagcctacggcactgcc-----cgtagctccctaaa
                                                                                                                                                                                                                                                                                                                                                                                                                           ttgcgcccattagcattctagtgggcatgcctgttcgagcgtcatt-taccacttaagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gggatacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ggaatacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gcggcgcggccacgccgtaaaacaccc---aacttctgaatgttgacctcgaatcaggta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           37.68;
72.28;
                                                                                                                                                          629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 119.8; DB 1;
Pred. No. 1.9e-25;
0; Mismatches 72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  650;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                           242
                                                                                                                                                                                                                                                                                                                                                             495
                                                                                                                                                                                                                                                                                                                                                                                           182
                                                                                                                                                                                                                                                                                                                                                                                                                             447
                                                                                                                                                                                                                                                                                                                                                                                                                                                             122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               62
                                                                                                                                                                                                                           612
                                                                                                                                                                                                                                                                                           553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
```

```
CURRENT APPLICATION NUMBER: US/09/766,173C
CURRENT FILING DATE: 2001-01-22
PRIOR APPLICATION NUMBER: PCT/US01/01735
PRIOR FILING DATE: 2001-01-19
PRIOR APPLICATION NUMBER: 60/177,013
PRIOR FILING DATE: 2000-01-19
NUMBER OF SEQ ID NOS: 13
SOFTMARE: FastSEQ for Windows Version 3.0
SEQ ID NO 4
LENGTH: 641
TYPE: DNA
ORGANISM: Guignardia Citricarpa
US-09-766-173C-4
                                     CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR FILING DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR EILING DATE: 1997-05-02
NUMBER OF SEQ ID NOS: 61
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 24
LENGTH: 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-046-955-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 24, Applica GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 198;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for APPLICANT: Control and Prevention APPLICANT: Morrison, Christine J. APPLICANT: Reiss, Errol
                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species TITLE OF INVENTION: Other Filamentous Fungi FILE REFERENCE: 6395-62064
                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Aldorevich, Liliana APPLICANT: Choi, Jong Soo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILE REFERENCE: Oregon 99-09
ORGANISM: Pseudallescheria boydii
                            TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              438 ctgcttggtattgggcgacgtccgctgccggacgcctggaagacctcgg-----cga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    303 atacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            612 atacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  552 ccgccggacaatcgaccttcggtcactatttttccaaggttgacctcggatcaggtaggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            492 cggcgtctcagcctcgagcgtagtagtaaaatatctcgctttggaggagggggggcgctgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123 cccgggcctggcgttggggatcggcggaagccccctgcggggcacaacgccgtcccccaaa 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                318 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  63 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9c9gcgcggcacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ttgcgccccctggcattccggggggcatgcctgttcgagcgtcatttcaaccctcaagct 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Application US/10046955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            35.8%;
milarity 62.5%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 114.2; DB 5;
Pred. No. 8.4e-24;
0; Mismatches 113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         641;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  62
```

۲,

```
APPLICANT: Carroll, George C.
TITLE OF INVENTION: Materials and Methods For Detection of
TITLE OF INVENTION: Pathogenic Guignardia Citricarpa
FILE REFERENCE: Oregon 99-09
CURRENT APPLICATION NUMBER: US/09/766,173C
CURRENT FILING DATE: 2001-01-22
PRIOR APPLICATION NUMBER: PCT/US01/01735
PRIOR FILING DATE: 2001-01-19
PRIOR FILING DATE: 2001-01-19
PRIOR APPLICATION NUMBER: 60/177,013
PRIOR FILING DATE: 2000-01-19
UNMBER OF SEQ ID NOS: 13
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 10
US-09-766-173C-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-046-955-24
                                                                                                                                 á
                                                                                                                                                                                                                                                                                                     ; TYPE: DNA
; ORGANISM: Guignardia Citricarpa
US-09-766-173C-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                      Ş
                                                                                                    B
                                                                                                                                                                 Ъ
                                                                                                                                                                                            Ş
              S
                                            Ъ
                                                                                                                                                                                                                            Query Match
Best Local S
Matches 210
                                                                                                                                                                                                                                                                                                                                                SEQ ID NO 5
LENGTH: 618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 5, Application US/09766173C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 244;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
               183
                                                                                                         373
                                                                          123
                                                                                                                                                                  313 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      62
                                                                                                                       63 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                             Local Similarity
nes 210; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ac----acctcgcaactggagagcgggcgcggccacgccgtaaaacacccaacttctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ctccgtttccttagggaagcctagggtcggtgttggggcgctacggcaagtcctcgcaac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               attgcgcccggcagtaatctgccgggcatgcctgtccgagcgtcatttcaaccctcgaac 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tettttgeaagetegeattgggteeeggeggaggeetgeegteaaaceaectaacaaete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ccccgtaggccctgaaatacagtggcggtcccgccgcggttgccttctgcgtagtaagtc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gcc----gtcccccaaatacagtggcggtcccgccgcagcttccat-tgcgtagtagcta 224
tacagtggcggttcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga 242
                                                            cccgggcctggcgttggggatcggcgggaagccccctgcgggcacaacgccgtcccccaaa
                                            c---tgcttggtattgggcaacgtccgctgccggacgtgccttgaagacc-----tc
                                                                                                       ttgcgccctctggtattccggagggcatgcctgttcgagcgtcatttcaaccctcaagct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                34.9%;
                                                                                                                                                                                                                                             34.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 111.2; 1
Pred. No. 5.7e
0; Mismatches
                                                                                                                                                                                                                             Score 110.6; DB 5;
Pred. No. 9.5e-23;
0; Mismatches 94;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5.7e-23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 7;
                                                                                                                                                                                                                                94; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                            Length 618;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                346;
                                                                                                                                                                                                                                  13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                               182
                                                                                                                                                                       372
                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6,
                                                                                                                                                                                                                                  u
٠٠
```

```
PRIOR PPLICATION NUMBER: US 09/423,233
PRIOR PILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR FILING DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEQ ID NOS: 61
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 27
SEQ ID NO 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                 οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: Scedosporium apiospermum US-10-046-955-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 11
US-10-046-955-27
                                                                                                                                                                                    δõ
                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
RESULT 12
US-10-046-955-26
                                                                                                                                                  밁
                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for APPLICANT: Control and Prevention APPLICANT: Morrison, Christine J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and TITLE OF INVENTION: Other Filamentous Fungi FILE REFERENCE: 6395-62064 CURRENT APPLICATION NUMBER: US/10/046,955 CURRENT FILING DATE: 2002-06-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      243 gcggc--gcggccacgccgtaaaacaccccaacttctgaatgttgacctcgaatcaggtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            482
                                                                                                                                                  241
                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                    166
                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                           123
                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                  63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Match 34.5%;
Local Similarity 68.7%;
                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ggatacccgctgaactt 618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gaatacccgctgaactt 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  acggccgccggacaatcgaccttcggtctattttccaaggttgacctcggatcaggtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ggcgacggcgtcctagcctcgagcgtagtagtaaaaatatctcgctttggagtgctgggcg
                                                                                                                                                                                                                                                                                               tccgtttcctcagggaagctcagggtcggtgttggggggctacggcgagtcttcgcgacc 180
                                                                                                                                                                                                                                                                                                                                                                                             ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                           a----tgttgacctcgaatcaggtaggaatacccgctgaacttaa 319
                                                                                                                                                                                                                        ctccgtaggccctgaaatacagtggcggtcccgccgcggttgccttctgcgtagtaagtc 240
                                                                                                                                                                                                                                            caacgccgtcccccaaatacagtggcggtcccgccgcagcttccat-tgcgtagtagcta 224
                                                                                                                                                  tcttttgcaagetegeattgggteeeggeggaggeetgeegteaaaceaectataactee
                                                                                                                                                                                                                                                                                                                                           cccg-----
                                                                                                                                                                                                                                                                                                                                                                           ttgcgcccggcagtaatctgccgggcatgcctgtccgagcgtcatttcaaccctcgaacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Application US/10046955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Aidorevich, Liliana
Choi, Jong Soo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Reiss, Errol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                    -actggagagcgcgcgcgcacgccgtaaaacacccaacttctga 278
                                                                                                                                                                                                                                                                                                                                   ----ggcctggcgttggggatcggcggaagccccctgcgggca 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PCT/US98/08926

 Mismatches

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 110.2; DB 7 Pred. No. 1.1e-22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 343;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
```

```
APPLICANT: The Government of the United States of America, as Represente APPLICANT: Secretary of the Department of Health and Human Services, Ce APPLICANT: Control and Prevention
APPLICANT: Morrison, Christine J.
APPLICANT: Reiss, Errol
APPLICANT: Reiss, Errol
APPLICANT: Choi, Jong Soo
TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and TITLE OF INVENTION: Other filamentous Fungi
FILE REFERENCE: 6395-62064
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 09/45,400
PRIOR FILING DATE: 1998-05-01
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEQ ID NOS: 61
SEC ID NO 26
TITLE OF INVENTION: Use of phoma glomerata as
TITLE OF INVENTION: Diseases in Plants
FILE REFEBERCE: RU-0093
CURRENT APPLICATION NUMBER: US/09/517,790
CURRENT FILING DATE: 2000-03-02
PRIOR APPLICATION NUMBER: US 60/123,099
PRIOR FILING DATE: 1999-03-05
NUMBER OF SEQ ID NOS: 5
SOFTWARE: Patentin version 3.1
SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                                    US-09-517-790-5
                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TYPE: DNA ; ORGANISM: Scedosporium apiospermum US-10-046-955-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                       Sequence 5, Application US/09517790 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 26, Application US/10046955 GENERAL INFORMATION:
                                                                                                                                                                                                      APPLICANT: White, Jr., James F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 344
                                                                                                                                                                                                                                                                                                                                                                                              279
                                                                                                                                                                                                                                                                                                                                                                                                                                  242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc
                                                                                                                                                                                                                                                                                                                                                 agatggtttgacctcggatcaggtagg--tacccgctgaacttaa
                                                                                                                                                                                                                                                                                                                                                                    a----tgttgacctcgaatcaggtaggaatacccgctgaacttaa 319
                                                                                                                                                                                                                                                                                                                                                                                                                          tcttttgcaagctcgcattgggtcccggcggaggcctgccgtcaaaccacctataactcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   caacgccgtcccccaaatacagtggcggtcccgccgcagcttccat-tgcgtagtagcta 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CCC9------gcctggcgttggggatcggcggaagccccctgcgggca 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       acacctcgca-----actggagagcggcgcggccacgccgtaaaacacccaacttctga 278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ctccgtaggccctgaaatacagtggcggtcccgccgcggttgccttctgcgtagtaagtc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tccgtttcctcagggaagctcagggtcggtgttggggcgctacggcgagtcttcgcgacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           34.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 110.2; DB 7
Pred. No. 1.1e-22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                   as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 7;
                                                                                                                                                                                   Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          78;
                                                                                                                                                                                 Hyperparasite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             America, as Represented by the and Human Services, Centers for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 344;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30;
                                                                                                                                                                                 in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                               Biocontrol of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ű
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ď
```

밁

```
; TYPE: DNA
; ORGANISM: Pseudallescheria boydii
US-10-046-955-25
                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 14
US-10-046-955-25
; Sequence 25, Application US/10046955
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; TYPE: DNA; Ampelomyces US-09-517-790-5
                                                                                                                                                                                                                                  CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR FILING DATE: 1998-05-01
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
PRIOR FILING DATE: 1997-05-02
PRIOR FILING DATE: 1997-05-02
VMMBER OF SEQ ID NOS: 61
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                              Matches
                                                                           Query Match
Best Local S
                                                                                                                                                                                                         SEQ ID NO 25
LENGTH: 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 210; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: The Government of the United States of APPLICANT: Secretary of the Department of Health APPLICANT: Control and Prevention APPLICANT: Morrison, Christine J. APPLICANT: Reiss, Errol APPLICANT: Aldorevich, Liliana APPLICANT: Aldorevich, Liliana APPLICANT: Choi, Jong Soo
                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Choi, Jong Soo
TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus
TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
TYPE: DN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                504 atacccgctgaacttaa 520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    220 aaatgcgataagtagtgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttg-aacgcac 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3 aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcggaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 atacccgctgaacttaa
|}||||||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tcataacgacgacgtccaaaagta--catttttacactcttgacctcggatcaggtaggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      acaattgg----cagccggcgtattgatttcggagcgcagtacatctcgcgctttgcac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gcggcgcggccacgccgtaaaacacccaacttctgaatgttgacctcgaatcaggtagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ttgcgccccttggtattccatggggcatgcctgttcgagcgtcatttgtaccttcaag--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----ctctgcttggtgttgggtgtttgtctcgcctctgcgtgtagactcgcctcaaa
                                                                                                                                                                                                         346
                                                                         Similarity
                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                         34.28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               34.3%;
66.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                319
                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 109.4; DB 5
Pred. No. 2.1e-22;
                                                                       Score 109.2; DB 7
Pred. No. 2.2e-22;
                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   America, as Represented and Human Services, Cent
                                                        Indels
                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                          346;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Services, Centers
                                                      30;
                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 by the ters for
                                                      6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ψ
```

```
APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for Dis APPLICANT: Control and prevention
APPLICANT: Morrison, Christine J.

APPLICANT: Morrison, Christine J.

APPLICANT: Reiss, Errol
APPLICANT: Chdi, Jong Soo
TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 1900-06-07
PRIOR APPLICATION NUMBER: US/10/045,233
PRIOR APPLICATION NUMBER: US/10/045,400
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEQ ID NOS: 61
SEQ ID NO 28
LENGTH: 309
TYPE: DNA
ORGANISM: Penicillium notatum
US-10-046-955-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 15
US-10-046-955-28
Sequence 28, Application US/10046955
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
   밁
                               δ
                                                                          밁
                                                                                                          ð
                                                                                                                                                   g
                                                                                                                                                                                 Ş
                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                   Query Match 33.9%;
Best Local Similarity 67.5%;
Matches 216; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  122 ctccgtttcctcagggaagctcagggtcggtgttggggcgctacggcaagtcttcgc-aa 180
   170
                                       183
                                                                            118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 ctcttttgcaagctcgcattgggtcccggcggaggcctgccgtcaaaccacctataactc 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   62
                                                                                                                                                     60
                                                                                                                                                                                         63
                                                                                                                                                                                                                              L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      attgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tacagtggcggtcccgccgcagcttccattgcgtagtagctaacacctcgcaactggaga 242
                                                                                                                                                                       ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcattacaaccctcaggcc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ----ctaacacctcgcaactggagagcggcgcgcgcgccgcgtaaaacaccccaacttctg 277
                                                                                            cccgggcctggcgttggggatcggcggaagccccctgcggggcacaacgccgtcccccaaa 182
                                                                                                                                               ttgcgccccctggtattccggggggcatgcctgtccgagcgtcattgctgccctcaag-- 117
                                                                                                                                                                                                                                              aaatgcgataagtaatgtgaattgcagaattcagtgaatcatcgaatctttgaacgcaca 62
ggcagcggcggcaccgcgtccggtcctcgagcgtatggggctttgtcacccgctctgtag 229
                                                                          cacggcttgtgtgttgggccccgtcctccgatcccgggg...-gacgggcccgaaa 169
                                                                                                                                                                                                                          aaatgcgatacgtaatgtgaattgca-aattcagtgaatcatcgagtctttgaacgcaca 59
                                                                                                                                                                                                                                                                                                   Score 108; DB 7; Length 309;
Pred. No. 4.9e-22;
0; Mismatches 90; Indels 14; Gaps
                                                                                                                                                                                                                                                                                                         4
```

Search completed: August 22, 2002, 00:50:49 Job time: 11889 sec

```
Minimum DB
Maximum DB
                Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Total number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence:
      ŏ
.
                                                        Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
    Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       seg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nucleic search, using sw model
   Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       length: 0
length: 2000000000
                                                                                                    GenEmbl: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1797656 seqs, 10463268293 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-046-955-7
310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             August 21, 2002,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aaatgcgataagtaatgtga.....ggaatacccgctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                          gb_ov:*
gb_pat:*
gb_ph:*
gb_pr:*
                                                                                                                                                                                                                                                                                                                                                                                                                gb_ba:*
gb_htg:*
gb_in:*
gb_om:*
                                                                                                  em_htg_hum:*
em_htg_inv:*
em_htg_other:*
em_htgo_inv:*
                                                                                                                                           em_or:*
em_ov:*
em_pat:*
em_pl:*
em_pl:*
em_ro:*
em_ro:*
                                                                                                                                                                                                                                         gb_sy:*
gb_un:*
gb_vi:*
em_bv:*
em_fun:*
em_hum:*
em_in:*
em_mu:*
                                                                                                                                                                                                                                                                                                                                        gb_sts:*
                                                                                                                                                                                                                                                                                                                                                   gb_ro:*
      IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22:09:47 ;
                                     SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Search time 2238.68 Seconds (without alignments) 2897.791 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3595312
Description
```

	_		•	_	_	_	•	•	٠.	_	_			_	_	_	-	٠.	•	_	_	••	-	_	_	_		Ψ.	•			٠,	Ī	-			•	σ.	_	_		•
66.		67.	68.	69.	70.	70.	72.	78	84	84	88	88	88	88.	28		ø	90.		ø	•		•	.*	٥.	6	.7	9	0	- 1	- !	٠,	ى د	ى د			6.	6.	6.	٥.	9	31
6.	8 6 5 . Z	.6	6.	6	7.	7	7	9	۳.	ا مو	w	ω.	ω.	w :	ω -	ω	·	·	ω.	ω.				5	5	5	5		7	7	۷:	٠:	٠.	ı α		9.	9	9	9	9.	9	100.0
1456	1460	47	538	Ĺ	S	Ň	w	543 3	w	w	5 7	N	•	w	4	N	w	u	N	N	Ç	4	4	w	w	w	5	w	0	w 1	ωţ	ט ע	4 6		531	9	9	σ	ഗ	s	351	310
œ (x 0 00	00	œ	œ	ω ·	œ (00	Φ (œ	œ (00	00	00	ω .	Φ	œ	œ	æ	æ	œ	œ	ထ	œ	œ	Φ.	œ	œ	œ	Φ (3 0 (20 (0 0	0	α	000	0	æ	œ	В	80	œ	œ
F31	ن د	F15	FSU61695	ğ	3	SUE	SU3	FBU34581	2	ď	Y	F15	E 16	ם פ	F 00	ğ	FSU34565	Š	FSU61691	FSU61687	FDLARRNA	AF158309	AF158307	FSU34564	FSU61692	FSU34567	FREDRRNA	FPU34574	AF165873	FSU61693	FAU61670	2012455	FIDER	15830	15830	R16809	F2910	45216	PRC	FFUJRRNA	AF162903	2
310982	10976 Fus	150468 Nectria	1695 Fusarium s	8954 Pseudof	F310981 Fusarium	61690 Fusarium	4560 Fusarium	34581 Fusarium	4575 Fusarium	4568 Fus	4174 Fusarium	158312 Fusari	162897 Fusarium	72 Fu	8920 Fusarium	78 F	65 Fusarium	73 Fusarium a	91 Fusarium	87 Fusarium g	77 Fusarium	309 Fusari	8307 Fusarium	64 Fusarium	692 Fusarium s	4567 Fusarium	169 Fusarium	74 Fusarium p	AF165873 Gibberell	93 Fusarium s	670	ASSO FIGURATION T	156302 FUSATIUM	158304	158303	168094 S	291061 H	452163 Pythium	171 Fusarium p	4176 Fus	162903 Fusariu	92

ALIGNMENTS

AF117922
LOCUS
DEFINITION
Gibberella fujikuroi ATCC 38519 5.8S ribosomal RNA gene, partial sequence; internal transcribed spacer 2, complete sequence; and 285 recession
ACCESSION
ACCESSION
AF117922
AF117922
ACCESSION
AF117922
AF17922
AF117922
AF117922
AF117922
AF117922
AF117922
AF117922
AF11792
AF1179

FEATURES

source

rRNA

misc_RNA

```
unery match 100.0%;
Best Local Similarity 100.0%;
Matches 310; Conservative C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGGTCTCGCTGCAGCTTCCATTGCGTAGTAGTAAAACCCTCGCAACTGGTACGCGGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gcggtctcgctgcagcttccattgcgtagtagtaaaaaccctcgcaactggtacgcgcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCCAAGCCGTTAAACCCCCCAACTTCTGAATGTTGACCTCGGATCAGGTAGGAATACCCG
                                                                                                                                                              Submitted (28-JUN-1999) Biology, SangMyung University, 7 Hong Dong, Chong Ro-Gu, Seoul 110-743, Korea
                                                                                                                                                                                                                                                Fusarium proliferatum
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; Nectriaceae; Gibberella; Gibberella fujikuroi complex.
                                                                                                                                                                                                                                                                                                                                           RNA gene, partial sequence. AF162903 AF162903.1 GI:5690392
                                                                                                                                                                                                                                                                                                                                                                                             AF162903 351 bp DNA Fusarium proliferatum 5.8S ribosomal RNJ internal transcribed spacer 2, complete
                                                                                                                                                                                                   Direct Submission
                                                                                                                                                                                                                                                                                                       Fusarium proliferatum.
                                                                                                                                                                                                                                    (bases 1 to 351)
                                                     /organism="Fusarium proliferatum"
/strain="6787"
/db_xref="taxon:42674"
<1. 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /product="28S ribosomal RNA"
86 c 80 g 71 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /product="5.8S ribosomal RNA" 159. .272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /db_xref="taxon:5127"
<1. .159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Gibberella
/strain="ATCC 38519"
/db_xref="ATCC:38519"
                      /product="5.8S ribosomal RNA"
129. 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /product="internal transcribed 273. .>310
   /product="internal transcribed spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note-"ITS2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 310; DB 8;
Pred. No. 4.6e-85;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fujikuroi"
                                                                                                                                                                                                                                                                                                                                                                                             RNA gene, partial sequence;
ete sequence; and 28S ribosomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                linear
     2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                PLN 04-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                  JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                               SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
FFUJRRNA
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                  COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 99.4
'-has 308; Conservative
                                                                                                                                                                                                                                                   JOURNAL
                  gene
                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGAACTTAA 331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ctgaacttaa 310
||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gcggtctcgctgcagcttccattgcgtagtagtaataccctcgcaactggtacgcggcgc 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGCGCCCGCCAGTATTCTGGCGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCC 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCGGTCTCGCTGCAGCTTCCATTGCGTAGTAGTAAAACCCTCGCAACTGGTACGCGGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCGGGTTTGGTGTTGGGGGATCGGCGAGCCCTTGCGGCAAGCCGGCCCCGAAATCTAGTG 201
                                                                                                                                                                                                                                                                                                  Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes; Hypocreales; Nectriaceae; Gibberella; Gibberella fujikuroi complex. 1 (bases 1 to 558)
Waalwijk,C., de Koning,J.R.A., Baayen,R.P. and Gams,W. Discordant groupings of Fusarium spp. from sections Elegans, Liseola and Dlaminia a based on ribosomal ITS1 and ITS2 sequences Mycologia 88, 361-368 (1996)
Mycologia 88, 361-368 (1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FFUJRANA 11 Linear PLN 14-JUN-2001 FUSATIUM fujikuroi 18S rRNA gene (partial), 5.8S rRNA gene, 28S rRNA gene (partial), internal transcribed spacer 1 (ITS1) and internal transcribed spacer 2 (ITS2).
                                                                                                                                                                                            Submitted (08-DEC-1995) C. Waalwijk, Research Inst. for Pl Protection, PO box 9060, 6700 GW Wageningen, NETHERLANDS On Jun 15, 2001 this sequence version replaced gi:1103564. Overlaps with X78260.
                                                                                                                                                                                                                                                                                                                                                                                                                                              Gibberella fujikuroi.
Gibberella fujikuroi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18S ribosomal RNA; 18S rRNA gene; 28S ribosomal RNA; 28S rRNA gene; 5.8S ribosomal RNA; 5.8S rRNA gene; internal transcribed spacer 1; internal transcribed spacer 2; ITS1; ITS2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     X94176 X93900
X94176.1 GI:1122868
                                                                                                                                                                                                                                                                    Direct Submission
                                                                                                                                                                                                                                                                                 Waalwijk,C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product="28S ribosomal RNA"
94 c 94 g 76 t
                                                                                     /strain="CBS 221.76"
/specific_host="rice"
/db_xref="taxon:5127"
/gene="18S rRNA"
                               /product="18S ribosomal RNA"
                                                                                                                                                                         Location/Qualifiers
                                                                                                                                           /organism="Gibberella
                                                     /gene="18S rRNA"
                                                                                                                                                            . 558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 306.8; DB 8
Pred. No. 4.6e-84;
0; Mismatches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
```

REFERENCE AUTHORS TITLE

Min, B.R

JOURNAL

FEATURES

misc_RNA

SOURCE ORGANISM VERSION KEYWORDS RESULT AF162903 LOCUS

DEFINITION

Ş ₽ Š В ð Вþ Ş 멍 á

> 241 241 181

121 181

121 61 61 Ъ ş BASE COUNT ORIGIN

73

rRNA

В

301

CTGAACTTAA 310 ctgaacttaa 310

```
ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BASE COUNT
ORIGIN
                                                                  JOURNAL
REFERENCE
                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                   SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                    80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
      COMMENT
                                                                                                                                                                                                                                                                                                           FPRORRNA
                                                                                                                                                                                                                                                                                                                         RESULT
                                                                                                                                                                                                                                                                                   DEFINITION
                                          AUTHORS
TITLE
                             JOURNAL
                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 308;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                               529
                                                                                                                                                                                                                                                                                                                                                                                                                469
                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                              ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGAACTTAA 538
                                                                                                                                                                                                                                                                                                                                                                                       ctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (08-DEC-1995) C. Waalwijk, Research Inst. for Plant Protection, PO box 9060, 6700 GW Wageningen, NETHERLANDS On Jun 15, 2001 this sequence version replaced gi:1103572.
                                                                          l (bases 1 to 558)
Waalwijk,C., de Koning,J.R.A., Baayen,R.P. and Gams,W.
Discordant groupIngs of Fusarium spp. from sections Elegans,
Liscola and Dlaminia a based on ribosomal ITS1 and ITS2 sequ
Mycologia 88, 361-368 (1996)
                                                                                                                                                                                   x94171 x93904
x94171.1 GI:1122873
x94171.1 GI:1122873
18S ribosomal RNA; 18S rRNA gene; 28S ribosomal RNA; 28S
18S ribosomal RNA; 5.8S rRNA gene; internal transcribed internal transcribed spacer 2; ITS1; ITS2.
                                                                                                                                                                                                                                               FUSATION PROLIFERATION 185 RNA gene (partial), 5.85 RNA gene, 285 RNA gene (partial), internal transcribed spacer 1 (ITSI) and internal transcribed spacer 2 (ITS2), x94171 x93904
                                                                                                                                        Fusarium proliferatum
Eukaryota; Fungl; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; Nectriaceae; Gibberella; Gibberella fujikuroi complex
                                                     Waalwijk,C
                                                                                                                                                                                Fusarium proliferatum.
                                                                  (bases 1 to 558)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                         Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /gene="28S rRNA"
/product="28S ribosomal RNA"
501. .558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note-"
501. .>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="5.8 rRNA"
336. .500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /product="5.8 ribosomal 178. .335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="28S rRNA"
152 c 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="internal transcribed spacer 1,
178. .335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="5.8 rRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             . .>558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           internal transcribed spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 306.8; DB 8 Pred. No. 4.9e-84;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                558;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                         sequences
                                                                                                                                                                                                       rRNA gene;
spacer 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                δõ
                                                                                                                                                                                                                                                                                                                                                                                                            뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                         VERSION
```

```
SOURCE
ORGANISM
                                                                                                                                           RESULT
AF452163
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BASE COUNT
ORIGIN
               REFERENCE
                                                                              KEYWORDS
                                                                                                      ACCESSION
                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 308;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                         529
                                                                                                                                                                                                                                301 ctgaacttaa 310
                                                                                                                                                                                                                                                           469
                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                            409
                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                              349
                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                           229
                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           l aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatcttttgaacgcaca
                                                                                                                                                                                                                                                       ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                      CTGAACTTAA
                                                                                                                                                                                                                                                                                                                                                          CCCGGGTTTGGTGTTGGGGATCGGCGAGCCCTTGCGGCAAGCCGGCCCCGAAATCTAGTG
                                                                                                                                                                                                                                                                                                                                                                      cccgggtttggtgttggggatcggcaagcccttgcggcaagccggacccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA 288
                                   Pythium ultimum var. sporangiiferum. Pythium ultimum var. sporangiiferum Pythium ultimum var. sporangiiferum Eukaryota; stramenopiles; Oomycetes;
                                                                                                      AF452163 569 bp I Pythium ultimum var. sporangilferum RNA gene, partial sequence. AF452183
1 (bases 1 to 569)
Moorman, G.W., Geise
                                                                                         AF452163.1 GI:17980882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Overlaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                         538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product="28S ribosomal RNA" 501. .558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /gene="5.8 rRNA"
/product="5.8 ribosomal RNA'
178. .335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              with x/8260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="internal transcribed spacer 2, 501. .>58 /gene="285 rRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene="28S rRNA"
152 c 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene="18S rRNA"
31. .177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Fusarium proliferatum"
/strain="CBS 217.76"
/specific_host="Cattleya"
/db_xref="taxon:42674"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="internal transcribed spacer 1,
178. .335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              product="18S ribosomal RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene="18S rRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . 500
 Geiser, D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .8 rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 306.8; DB 8
Pred. No. 4.9e-84;
0; Mismatches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
 Kang, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           125
  and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 8;
                                                                                                                            isolate
                                      Pythiales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                            linear PLN 27-DEC-2001
308276R 18S ribosomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ITS1"
                                      Pythiaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                         468
                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                            408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
```

```
JOURNAL REFERENCE
                                                                                                              REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                      SOURCE
ORGANISM
                                                                                                                                                                                                                   ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                    RESULT
AF291061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ρ
                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                           LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                          AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
TITLE
                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                         486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          366
                                                                                                                                                                                                                                                                                                                                                                                                 546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGAACTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                             ctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCGGGTTTGGTGTTGGGGATCGGCGAGCCCTTGCGGCAAGCCGGCCCCGAAATCTAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               al Similarity
308; Conserv
       2 (bases 1 to 596)
Kwon,S.-I. and Anderson,A.J.
Direct Submission
Submitted (31-JUL-2000) Biology,
84322-5305, USA
                                                                       Can.
                                                                                                                                                Fusarium proliferatum
Fusarium proliferatum
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 (bases 1 to 569)
Moorman,G.W., Gelser,D.M., Kang,S. and Kim,S.
Direct Submission
Submitted (26-NOV-2001) Plant Pathology, Pennsylvania
University, 210 Buckhout Laboratory, University Park,
                                                                              Kwon,S.-I., van Dohlon,C.D. and Anderson,A.J. Gene sequence analysis of an opportunistic w) isolate of Fusarium proliferatum can. J. Bot. 79 (9), 1115-1121 (2001)
                                                                                                                                          Hypocreales; Nectriaceae; Gibberella; 1 (bases 1 to 596)
                                                                                                                                                                                                                                                 RNA, partial sequence AF291061
                                                                                                                                                                                                                                                                         AF291061 Sinear PLN 18-SEP-20 DNA linear PLN 18-SEP-20 Fusarium proliferatum NRRL 31071 18S ribosomal RNA, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA, and internal transcribed spacer 2, complete sequence; 28s ribosomal numbers of transcribed spacer 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pythium species and Unpublished 2 (bases 1 to 569)
                                                                                                                                                                                                     Fusarium proliferatum.
                                                                                                                                                                                                                                   AF291061.1 GI:15637128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /db_xref="taxon:115421"
<1. .569
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product="18S ribosomal RNA"
155 c 137 g 128 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /variety="sporangiiferum"
/isolate="308276R"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Pythium ultimum var.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 306.8; DB 8
Pred. No. 4.9e-84;
0; Mismatches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      population identification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                            Utah State
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sporangiiferum'
                                                                                                                 wheat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                           University, Logan,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      using DNA markers
                                                                                                                pathogen,
                                                                                                                                                                                                                                                                                                                       PLN 18-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  State
PA 16802, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                          complex
                                                                                                                                                                                                                                                                                                                                                                                                                                                           545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                           JOURNAL
FEATURES
                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                        DEFINITION ACCESSION
                                                                                                                                                                                                                                                                                                                                           RESULT
AR168094
                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
 δõ
                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                        δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
ORIGIN
                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                  LOCUS
                                                                    Query Match
Best Local S
Matches 308
                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                          567
                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                     507
                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         267
 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gcggtctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactggtacgcggcgc 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                                                                                                                                                                                                                                                                                                          CTGAACTTAA 576
                                                                                                                                                                                                                                                                                                                                                                                                              ctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCGGTCTCGCTGCAGCTTCCATTGCGTAGTAGTAAAACCCTCGCAACTGGTACGCGGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCCGGGTTTGGTGTTGGGGATCGGCGAGCCCTTGCGGCAAGCCGGCCCCGAAATCTAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCC 386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     308;
                                                                                                                                                                      1 (bases 1 to 2293)
Gallazzo, J.L. and Lee, M.D.
Production of high titers of gibberellins,
Gibberella fujikuroi strain LTB-1027
Patent: US 6287800-A 1 11-SEP-2001;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                       AR168094 2293
Sequence 1 from patent US 628
AR168094
                                                                                                                                                                                                                                                Unclassified
                                                                                                                                                                                                                                                          Unknown
                                                                                                                                                                                                                                                                       Unknown
                                                                                                                                                                                                                                                                                             AR168094.1
                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity 99.4
08; Conservative
                                                                                                                                          596
                                                                     Conservative
                                                                                                                                          þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Fusarium proliferatum"
/strain="NRRL 31071"
/specific_host="Triticum aestivum
/db_xref="taxon:42674"
<1...>596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="contains 18S ribosomal RNA, internal transcribed spacer 1, 5.8S ribosomal RNA, internal transcribed space 2, 28S ribosomal RNA"
                                                                                                                                      /organism="unknown"
527 c 592 g
                                                                                                                                                              . 2293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99.0%;
                                                                               99.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 306.8; DB 8
Pred. No. 4.9e-84;
0; Mismatches 2
                                                                    0,
                                                                    Score 306.8; DB 6
Pred. No. 5.8e-84;
0; Mismatches 2
                                                                                                                                                                                                                                                                                                                   293 bp
6287800.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                         578
                                                                                                                                                                                                                                                                                                                               DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 8;
                                                                                         6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                         Length
                                                                                                                                                                                                             GA4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CV.
                                                                                                                                                                                                                                                                                                                                linear
                                                                    Indels
                                                                                                                                                                                                             and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Super Dwarf'
                                                                                        2293;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           596;
                                                                                                                                                                                                             GA7,
                                                                                                                                                                                                                                                                                                                               PAT 17-DEC-2001
                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ..
                                                                                                                                                                                                             ý
                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                       2031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              spacer
                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

```
JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
AF158303
             á
                                       밁
                                                             ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                    BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
TITLE
                                                                                                    Query Match
Best Local Similarity
                                                                                         Matches 307;
                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                              rRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2032
                                                                                                                                                                                                                                                                        misc_RNA
                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2092
                                                                                                                                                                                                                       misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                        222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
          61 ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                 _
                                    geggtetegetgeagetteeattgegtagtagtaaaaecetegeaaetggtaegeggege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGAACTTAA 2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ctgaacttaa 310
|||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGCCAAGCCGTTAAACCCCCCAACTTCTGAATGTTGACCTCGGATCAGGTAGGAATACCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
Fusarium sp. NRRL26794
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; mitosporic Hypocreales; Fusarium.
1 (bases 1 to 531)
0 'Donnell,K., Nirenberg,H.I., Aoki,T. and Cigelnik,E.
A multigene phylogeny of the Gibberella fujikuroi species complex:
detectiion of additional phylogenetically distinct species
Mycoscience 41, 61-78 (2000)
                                                                                                                                                                                                                                                                                                                                                               Submitted (10-JUN-1999) Microbial Properties, N. University St., Peoria, IL 61604, USA Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fusarium sp. NRRL26794 18S ribosomal RNA gene, partial sequence; transcribed spacer 1, 5.8S ribosomal RNA gene and international spacer 2, complete sequence; and 28S ribosomal RNA gene, partial sequence.

AF158303
AF158303.1 GI:7106206
                                                                                                                                                                                                                                                                                                                                                                                                      Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                     O'Donnell, K
                                                                                                                                                                                                                                                                                                                                                                                                                                Mycoscience 41, 61-
2 (bases 1 to 531)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AF158303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fusarium sp. NRRL26794.
                                                                                                                                                                      137
                                                                                        Conservative
                                                                                                                                                                                           /product="internal transcribed 494...>531
                                                                                                                                                                                                                                               /product="internal transcribed
170. .328
                                                                                                                                                                                                                                                                                                                          /organism="Fusarium sp. NRRL26794"
/strain="NRRL26794"
                                                                                                                                                                    /product="28S ribosomal RNA"
146 c 128 g 120 t
                                                                                                                                                                                                                       /product="5.8S ribosomal RNA"
329. .493
                                                                                                                                                                                                                                                                                                            /db_xref="taxon:100621"
                                                                                                                                                                                                                                                                                     /product="18S ribosomal RNA"
                                                                                                    98.5%;
                                                                                                    Score 305.2; DB 8; Pred. No. 1.5e-83;
                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       531 bp
                                                                                                                                                                                                         spacer
                                                                                                                                                                                                                                                           spacer
                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                          NCAUR-USDA-ARS,
                                                                                                                                                                                                                                                              -
                                                                                                                  531;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PLN 21-MAR-2000
                                                                                        0;
                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            internal
                                                                                        0
                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
망
                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
AF158304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCUS
                                                                                                                                    Query Match
Best Local S
Matches 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                           rRNA
                                                                                                                                                                                                                                                                                                           misc_RNA
                                                                                                                                                                                                                                                                                                                                             rRNA
                                                                                                                                                                                                                                                                                                                                                                            misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
   291
                                                                   231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 cccgggtttggtgttggggatcggcaagcccttgcggcaagccgggccccgaaatctagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           282 TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCC
                                   61
ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gcggtctcgctgcagcttccattgcgtagtagtagtaaaaccctcgcaactggtacgcggcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGAACTTAA 531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCGGGTTTGGTGTTTGGGGATCGGCGAGCCCTTGCGGCAAGCCGGCCCCGAAATCTAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCGGTCTCGCTGCAGCTTCCATTGCGTAGTAGTAAAACCCCTCGCAACTGGTACGCGGCGC
                                                                                                                                    al Similarity 99.(
307; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fusarium sp. NRRL28852.
Fusarium sp. NRRL28852
Eukaryota; Fungi, Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; mitosporic Hypocreales; Fusarium.

1 (bases 1 to 540)
O'Donnell, K., Nirenberg, H.I., Aoki, T. and Cigelnik, E.
O'Bonnell, K., Nirenberg, H.Gibberella fujikuroi species complex:
detectiion of additional phylogenetically distinct species
Mycoscience 41, 61-78 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AF158304 540 bp DNA linear PLN 21-MAR-2 Fusarium sp. NRRL28852 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene and inter transcribed spacer 2, complete sequence; and 28S ribosomal RNA gene, partial sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (10-JUN-1999) Microbial Properties, NCAUR-USDA-ARS, 1815 N. University St., Peoria, IL 61604, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  O'Donnell, K.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AF158304.1 GI:7106207
                                                                                                                                                                                                                                                                                                                                                                          /product="18S ribosomal RNA" 33. .178
                                                                                                                                                                                                                                                                         /product="internal transcribed
503. .>540
                                                                                                                                                                                                                                                                                                          /product="5.8S ribosomal RNA"
338. .502
                                                                                                                                                                                                                                        /product="28S ribosomal RNA"
151 c 130 g 122 t
                                                                                                                                                                                                                                                                                                                                            /product="internal transcribed 179. .337
                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Fusarium sp. NRRL28852"
/strain="NRRL28852"
/db_xref="taxon:100622"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ocation/Qualifiers
                                                                                                                                                    98.5%;
                                                                                                                                  Score 305.2; DB 8; Pred. No. 1.5e-83; 0; Mismatches 3;
                                                                                                                                                                                                                                                                                        spacer
                                                                                                                                                                                                                                                                                                                                                          spacer
                                                                                                                                                                  Length 540;
                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PLN 21-MAR-2000
                                                                                                                                    0;
                                                                                                                                  Gaps
                                                                  290
                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          internal
                                                                                                                                    0
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 1
AF158302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
밁
                                                á
                                                                                                                    밁
                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     411
   291
                                                                                                                    231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      351
                                                       61
                                                                                                                                                                                                                                                             Local Similarity
                           ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc 120
                                                                                                              ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGAACTTAA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCGGTCTCGCTGCAGCTTCCATTGCGTAGTAGTAAAACCCTCGCAACTGGTACGCGGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCCAAGCCGTTAAACCCCCCAACTTCTGAATGTTGACCTCGGATCAGGTAGGAATACCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  O'Donnell,K.
Direct Submission
Submitted (10-JUN-1999) Microbial Properties,
N. University St., Peoria, IL 61604, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      l (bases 1 to 540)
O'Donnell,K., Nirenberg,H.I., Aoki,T. and Cigelnik,E.
O'Donnell,K., Nirenberg,H.I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AF158302 540 bp DNA linear PLN 21-MAR-20 Fusarium sp. NRRL26427 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene and interr transcribed spacer 2, complete sequence; and 28S ribosomal RNA gene, partial sequence.

AF158302 G1:7106205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fusarium sp. NRRL26427.
Fusarium sp. NRRL26427
Eusarium sp. NRRL26427
Eukaryota; Fungi, Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; mitosporic Hypocreales; Fusarium.
                                                                                                                                                                                                                                                                                                                                                                                                                137
                                                                                                                                                                                                                                                                                                                                                                                                                þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product-"internal transcribed 503...>540
                                                                                                                                                                                                                                                                                                                                                                                                          /product="28S ribosomal RNA"
150 c 130 g 123 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Fusarium sp.
/strain="NRRL26427"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /db_xref="taxon:100620"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /product="5.8S ribosomal RNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product="internal transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /product="18S ribosomal RNA"
                                                                                                                                                                                                                                                             97.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . 502
                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                             Score 303.6; DB 8; Pred. No. 4.7e-83;
                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    spacer 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   spacer
                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCAUR-USDA-ARS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PLN 21-MAR-2000
                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1815
                                                                                                                                                                                                                                  0
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
REFERENCE
AUTHORS
TITLE
                δõ
                                                                    Q
                                                                                                   В
                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 1
FFU34557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                       ₽
                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COCUS
                                                                                                                                                                                                             Query Match
Best Local Sin
Matches 304;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                 181
                                           349
                                                                                                   289
                                                                                                                                                         229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                            61
                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                   \vdash
                                                                                                                                                                                                                                                                                                                                                                                                        Molecular systematics and phylogeography of fujikurol species complex Mycologia 90 (3), 465-493 (1998) 3 (bases 1 to 534) 0'Donnell, K. and Cigelnik, E. Direct Submission Cigelnik, E. Submitted (21-AUG-1995) Kerry O'Donnell, NC University St., Peoria, IL 61604, USA
gcggtctcgctgcagcttccattgcgtagtagtagaaaccctcgcaactggtacgcggcgc
                                                       cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                               ttgcgcccgccagtattctggcgggcatgcctgttcgagcgtcatttcaaccctcaagcc
                                                                                                                                                                     aaatgcgataagtaatgtgaattgcaaaattcagtgaatcatcgaatctttgaacgcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ctgaacttaa 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ggccaagccgttaaacccccaacttctgaatgttgacctcggatcaggtaggaatacccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cccgggtttggtgttggggatcggcaagcccttgcggcaagccggccccgaaatctagtg
                                                                                                                                                       AAATGCGATAAGTAATGTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGAACTTAA
                                          CCCGGGTTTGGTGTTGGGGATCGGCCAGCCCTTGCGGCAAGCCGGCCCCGAAATCTAGTG
                                                                                                 TTGCGCCCGCCAGTATTCTGGCGGGCATGCCTGTTCGAGCGTCATTTCAACCCTCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fusarium
U34557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gibberella fujikuroi.
Gibberella fujikuroi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Two divergent intragenomic rDNA ITS2 types within lineage of the fungus Fusarium are nonorthologous Phylogenet. Evol. 7 (1), 103-116 (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 (bases 1 to 534)
O'Donnell, K. and Cigelnik, E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          O'Donnell, K., Cigelnik, E. and Nirenberg, H.I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gibberella fujikuroi
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; Nectriaceae; Gibberella; Gibberella fujikuroi complex.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (bases 1 to 534)
                                                                                                                                                                                                                                                                                                 135
                                                                                                                                                                                                             97.7%; ilarity 99.3%; Conservative
                                                                                                                                                                                                                                                                                                 Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       fujikuroi internal transcribed spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                            /product="internal transcribed spacer"
149 c 130 g 120 t
                                                                                                                                                                                                                                                                                                                                     /db_xref="taxon:5127"
                                                                                                                                                                                                                                                                                                                                                     /organism="Gibberella
/strain="NRRL 13566"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GI:1808928
                                                                                                                                                                                                                                                                                                                                                                                             ocation/Qualifiers
                                                                                                                                                                                                             0;
                                                                                                                                                                                                            Score 302.8; DB 8;
Pred. No. 8.4e-83;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    534 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phylogeography of the Gibberella
                                                                                                                                                                                                                                                                                                                                                                  fujikuroi"
                                                                                                                                                                                                                                                                                                                                                                                                                           NCAUR, USDA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
acer RNA.
                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               monophyletic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PLN 15-JUL-1998
                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                             1815
                                                                                                                                                                                                            Gaps
                                                                                                                                                       288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        470
                                                                    180
                                                                                                 348
                                                                                                                            120
                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                240
                                           408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              410
                                                                                                                                                                                                               0
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-652-127C-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-471-119A-1
APPLICATION NUMBER: US/08/471

APPLICATION NUMBER: US/08/471

FILING DATE: 06-JUN-1995

CLASSIFICATION: 435

ATTORNEY/AGENT INFORMATION:

NAME: Kassenoff, Melvyn

REGISTRATION NUMBER: 26,389

REFERENCE/DOCKET NUMBER: 100-1

TELECOMMUNICATION INFORMATION:

TELEPHONE: 201 503 8807

INFORMATION FOR SED ID NO: 1:

SEQUENCE CHARACTERISTICS:

LENGTH: 46899 base pairs

TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1, Application US/08471119A Patent No. 5827706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: KIR 6K7
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Leitner, Ernst
APPLICANT: Schneider, Elis
APPLICANT: Schoergendorfes
APPLICANT: Weber, Gerhard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: George A. Seaby
REGISTRATION NUMBER: 24,034
REFERENCE/DOCKET NUMBER: 1898
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 232-5815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: (613) 232-5831 INFORMATION FOR SEQ ID NO: 6: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                             MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: Cyclosporin Synthetase NUMBER OF SEQUENCES: \boldsymbol{\theta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/652,127C FILING DATE: May 23, 1996 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 59 Route 10
CITY: East Hanover
STATE: New Jersey
                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: U. ZIP: 07936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     59 Route 10
                                                                                                                                                                                                                                                                                                                                                                                               USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Schneider, Elisabeth
Schoergendorfer, Kurt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     No. 5827706artis Corporation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             82.2%;
                                                                                                                                                                                                                                                 US/08/471,119A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 14.8; D
Pred. No. 26;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1898
                                                                                                                                        100-8029/CONT/CONT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 581;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
```

```
; ANTI-SENSE: NO
; ORIGINAL SOURCE:
; ORGANISM: Tolypocladium niveum
; STRAIN: ATCC 34921
US-08-471-119A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-737-129A-1/c
밁
                          Ş
                                                                                                                                   ; MOLECULE TYPE: cDNA US-08-737-129A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1, Application Patent No. 5885816
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 15; Conserv
                                                                        Query Match
Best Local :
                                                          Matches
                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: Warren M. Cheek, Jr.
REGISTRATION NUMBER: 33,367
REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS: LENGTH: 636 bases
                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/737,129A
FILING DATE: No. 5885816ember 15, 1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette,
COMPUTER: IBM Compatibl
OPERATING SYSTEM: MS-DO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Ikuo FUJII et al.
TITLE OF INVENTION: CATALYTIC ANTIBODIES ENANTIOSELECTIVELY
TITLE OF INVENTION: HYDROLYSING AMINO ACID ESTER DERIVATIVES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE:
HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: Wordperfect 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: I
566 GTGACGGTCTCGCT 553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDEDNESS:
                                                                                                                                                            TYPE: nucleic acid
STRANDEDNESS: doubl
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 805 Fifte
CITY: Washington
                                                                       Local Similarity
                                                                                                                                                                                                                                                                      TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
              5 gtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/08737129A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      %E: Wenderoth, Lind & Ponack
805 Fifteenth Street, N.W., #700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                unknown
                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              single
                                                                                                                                                                               double
                                                                       100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             80.0%;
93.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3.5 inch, 1.44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; Score 14.4; D; Pred. No. 55; 0; Mismatches
                                                          0;
                                                                        Score 14; DB 2; Pred. No. 70;
                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1;
                                                                                        Length 636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 46899;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                            0
```

```
В
                                                                                                                                                                                                                                                                                                                                                   ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-737-129A-5/c
                                                                                                                                                                                                          RESULF 9
PCT-US94-14106-58/c
Sequence 58, Application PC/TUS9414106
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; MOLECULE TYPE: US-08-737-129A-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 5, Application US/08737129A Patent No. 5885816
                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5:
COMPUTER: IBM Compatible
OPERATING SYSTEM: MS-DOS
SOFTWARE: Wordperfect 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Ikuo F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: Warren M. Cheek, Jr.
REGISTRATION NUMBER: 33,367
REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US
FILING DATE: NO. 58858
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 800
STREET: Washington
CITY: Washington
STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: CATALYTIC ANTIBODIES ENANTIOSELECTIVELY TITLE OF INVENTION: HYDROLYSING AMINO ACID ESTER DERIVATIVES
                                              MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII (text)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                  TITLE OF INVENTION: Process for Generating Specific Antibodies NUMBER OF SEQUENCES: 61
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                   596 GTGACGGTCTCGCT 583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
TOPOLOGY: lir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: nucleic acid
CLASSIFICATION:
                APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                      G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH:
                                                                                                                                                                                                                                                                                                                                      gtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                E: Wenderoth, Lind & Ponack 805 Fifteenth Street, N.W., #700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     666 bases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ikuo FUJII et al
                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R: US/08/737,129A
5885816ember 15, 1996
                                                                                                                                                                                                                                                                                                                                                                                                        77.8%;
100.0%;
                                    PCT/US94/14106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3.5 inch, 1.44 mb
                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                          Score 14;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                            DB 2;
70;
                                                                                                                                                                                                                                                                                                                                                                                                                            Length 666;
                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                           0
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PCT-US94-14106-50/c

; Sequence 50, Application PC/TUS9414106

; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PCT-US94-14106-58
                                                                                                                             PCT-US94-14106-54/c
PCT-US94-14106-54/c
Sequence 54, Application PC/TUS9414106
GENERAL INFORMATION:
                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                     ; NAME/KEY:
; LOCATION:
PCT-US94-14106-50
                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
APPLICANT:
TITLE OF INVENTION: PICC.
NUMBER OF SEQUENCES: 61
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: FLORY: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                               Matches 14; Conservative
                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS: LENGTH: 735 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO:
TITLE OF INVENTION: Process for Gen
NUMBER OF SEQUENCES: 61
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII (text)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OPERATING SYSTEM: PC-D
SOFTWARE: ASCII (text)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: cDNA
                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                653 GTGACGGTCTCGCT 640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY:
LOCATION:
                                                                                                                                                                                                                    671 GTGACGGTCTCGCT 658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5 gtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS: both
                                                                                                                                                                                                                                                                                                                                                                                                                               ropology:
                                                                                                                                                                                                                                               5 gtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                     nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               717 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
67..717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                   67..735
                                                                                                                                                                                                                                                                                                                                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                                                               CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    poth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      77.8%;
                                                                                                    Process for Generating Specific Antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Process for Generating Specific Antibodies
                                                                                                                                                                                                                                                                                             100.0%;
                                                                                                                                                                                                                                                                                                            77.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PCT/US94/14106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            58:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     50:
                                                                                                                                                                                                                                                                                             Score 14;
; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 14;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                          DВ
70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 5;
70;
                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 717;
                                                                                                                                                                                                                                                                                                           Length 735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                 0
```

```
ş
; TOPOLOGY:
US-08-860-882A-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-860-882A-25/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     日
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PCT-US94-14106-54
                                                     IELEFAX: (202) 861-302)
TELEX: (202) 822-0944
TELEX: 6174627 CUSH
INFORMATION FOR SEQ ID NO: 25:
SEQUENCE CHARACTERISTICS:
LENGTH: 777 base call
                                                                                                                                                                                                                      COMPUTER: IBM COMPATIBLE

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25

SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/860,882A

FILING DATE: JUNE 23, 1997

CLASSIFICATION: 424

ATTORNEY/AGENT INFORMATION:

NAME: DONALD J BIRD

REGISTRATION NUMBER: 25,323

REGISTRATION NUMBER: 25,323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 77.8%; Score 14; DB 5; Length 735; Best Local Similarity 100.0%; Pred. No. 70; Matches 14; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: HEATON, DAVID WILLIAM
APPLICANT: DAVIES, DAVID HUW
TITLE OF INVENTION: CHEMICAL COMPOUNDS
NUMBER OF SEQUENCES: 77
CORRESPONDENCE ADDRESS:
ADDRESSEE: PILLSBURY, MADISON & SUTRO
STREET: 1100 NEW YORK AVENUE, N.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 735 base pairs
                                                                                                                                                                REGISTRATION NUMBER: 25,323
REFERENCE/DOCKET NUMBER: 97
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 861-3027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: linear Oliforr
                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     671 GTGACGGTCTCGCT 658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE: I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: WASHINGTON
                                 TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: CDS
LOCATION: 67..735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5 gtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          20005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           D.C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/08860882A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BLAKELY, DAVID CHARLES MARSHAM, PETER ROBERT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BOYLE, FRANCIS THOMAS HENNAM, JOHN FREDERICK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EGGELTE, HENDRIKUS JOHANNES TARRAGONA-FIOL, ANTONIO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TAYLORSON, CHRISTOPHER JOHN
                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                    Floppy Disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BRIAN ROBERT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PCT/US94/14106
                                                                                                                                                                                                              9901/238653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
```

```
밁
                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                               US-08-133-011-99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 13
US-08-133-011-99/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patent No. 5658727 GENERAL INFORMATION:
                                                      Query Match 77.8
Best Local Similarity 100
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 77.8%;
Best Local Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 99,
                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US 07/683,602
FILING DATE: 10-APR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/826,623
FILING DATE: 27-JAN-1992
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
PRIOR APPLICATION:
APPLICATION DATA:
APPLICATION DATA:
10-APR-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                   TELEFAX: 619-554-6312
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 798 base pairs
                                                                                                                                                              MOLECULE TYPE:
HYPOTHETICAL: N
ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP: 92037

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/133,011
FILING DATE: 08-JUN-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Barbas, Carlos
APPLICANT: Lerner, Richard A.
TITLE OF INVENTION: HETERODIMERIC RECEPTOR LIBRARIES USING
TITLE OF INVENTION: PHAGEMIDS
                                                                                                                                                                                                                                                                                                                                              REGISTRATION NUMBER: 34,163
REFERENCE/DOCKET NUMBER: SCI
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619-554-2937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        677 GTGACGGTCTCGCT 664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 10666 | CITY: La Jolla
                                                                                                                                                                                                                      TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: The Scripps Research Institute, Office of ADDRESSEE: Patent Counsel STREET: 1066 No. 5658727th Torrey Pines Road, TPC-8
                                                                                                                                                                                                                                   STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5 gtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                            TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE:
gtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                 Fitting, Thomas
                                                                                                                                                                                                                                                    nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Application US/08133011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Kang, Angray
                                                                                                                                                                                                                    linear
                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                 double
                                                                                                                                                                                                   DNA (genomic)
                                                    77.8%; Score 14; DB 1; 100.0%; Pred. No. 71; tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PCT/US 92/03091
                                                                                                                                                                                                                                                                                                                                                                               SCRF 238.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 14;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB
71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2
                                                                                       Length 798;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 777;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                      Gaps
                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
```

밁

695 GTGACGGTCTCGCT 682

```
RESULT 15
US-08-387-874-71/c
US-08-387-874-71/c
; Sequence 71, Application US/08387874
; Patent No. 5770356
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                                                                                                                                                                                                                                           ; ANTI-SENSE: US-08-322-730A-99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 14
US-08-322-730A-99/c
; Sequence 99, Application US/08322730A
; Patent No. 5759817
; Patent No. 1770PARTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/826,623

FILING DATE: 27-JAN-1992

APPLICATION NUMBER: US 07/683,602

FILING DATE: 10-APR-1991

ATTORNEY/AGENT INFORMATION:

NAME: Bingham, Douglas A

REGISTRATION NUMBER: 32,457

REFERENCE/DOCKET NUMBER: SCR0707P

TELECOMMUNICATION INFORMATION:

TELEPHONE: 619-784-2937

TELEPHONE: 619-784-399

INFORMATION FOR SEQ 1D NO: 99:

SEQUENCE CHARACTERISTICS:

LENCTH: 708 baco. 2015
                                                                                                                                                                                                                                                                                                                                 Query Match 77.8
Best Local Similarity 100.
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: Barbas
APPLICANT: Light, Paul L., II
APPLICANT: Lerner, Richard A.
TITLE OF INVENTION: PHAGEMIDS COEXPRESSING A SURFACE
TITLE OF INVENTION: RECEPTOR AND A SURFACE HETEROLOGOUS PROTEIN
NUMBER OF SEQUENCES: 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                          HYPOTHETICAL: N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                        695 GTGACGGTCTCGCT 682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 798 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: The Scripps Research Institute, Office of ADDRESSEE: Patent Counsel STREET: 10550 No. 5759817th Torrey Pines Road, Suite 220, STREET: Mail Drop TPC8 CITY: La Jolla STATE: CA.
                                                                                                                                                                                                                                                                             5 gtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/322,730A FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        92037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Barbas, Carlos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                 77.8%; Score 14;
100.0%; Pred. No.
vative 0; Mismatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PHAGEMIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HETERODIMERIC RECEPTOR LIBRARIES USING
                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                         DB 1;
. 71;
                                                                                                                                                                                                                                                                                                                                                                          Length 798;
                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                 0;
```

```
Search completed: August 21, 2002, 22:12:29 Job time: 5702 sec
                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ANTI-SENSE: US-08-387-874-71
                                                                                                                                                                                                                                                                                                                                                             Ouery Match Best Local Similarity 100.0%; Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE/DOCKET NUMBER: TSRI 303.1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619-554-2937
TELEPAX: 619-554-6312
TELEPAX: 619-554-6312
TELEPAX: 619-554-6312
TELEPAX: 619-554-6312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: lin
MOLECULE TYPE:
HYPOTHETICAL: N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 798 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: The Scripps Research Institute, Office of ADDRESSEE: Patent Counsel
STREET: 10666 No. 5770356th Torrey Pines Road, Suite 220, STREET: Mail Drop TPC8
CITY: La Jolla
STATE: CA
STATE: 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Fitting, Thomas
REGISTRATION NUMBER: 34,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/08364
FILING DATE: 03-SEP-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/941,369
FILING DATE: 04-SEP-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                    COUNTRY: USA
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/OFILING DATE: 22-FEB-1995
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                   G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US/08/387,874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     34,163
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 14; DB 1; Length 798; Pred. No. 71;
                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                                                                                                                                                                                                                                                                                               0
```

```
Pending_Patents_NA_Main:*

| Pending_Patents_NA_Main:*
| Cgn2_6/ptodata/1/pna/US/
| Cgn2_6/ptodata/1/p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Minimum DB seq
Maximum DB seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IDENTITY_NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-046-955-49
18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           August 22,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21979536 seqs, 10817449327 residues
: /cgn2_6/ptodata/1/pna/US082_COMB.seq: *
(cgn2_6/ptodata/1/pna/US084_COMB.seq: *
(cgn2_6/ptodata/1/pna/US085_COMB.seq: *
(cgn2_6/ptodata/1/pna/US085_COMB.seq: *
(cgn2_6/ptodata/1/pna/US085_COMB.seq: *
(cgn2_6/ptodata/1/pna/US085_COMB.seq: *
(cgn2_6/ptodata/1/pna/US085_COMB.seq: *
(cgn2_6/ptodata/1/pna/US085_COMB.seq: *
(cgn2_6/ptodata/1/pna/US095_COMB.seq: *
(cgn2_6/ptodata/1/pna/US091_COMB.seq: *
(cgn2_6/ptodata/1/pna/US093_COMB.seq: *
(cgn2_6/ptodata/1/pna/US093_COMB.seq: *
(cgn2_6/ptodata/1/pna/US093_COMB.seq: *
(cgn2_6/ptodata/1/pna/US095A_COMB.seq: *
(cgn2_6/ptodata/1/pna/US096A_COMB.seq: *
(cgn2_6/ptodata/1/pna/US096A_COMB.seq: *
(cgn2_6/ptodata/1/pna/US096A_COMB.seq: *
(cgn2_6/ptodata/1/pna/US096A_COMB.seq: *
(cgn2_6/ptodata/1/pna/US096A_COMB.seq: *
(cgn2_6/ptodata/1/pna/US096A_COMB.seq: *
(cgn2_6/ptodata/1/pna/US098B_COMB.seq: *
(cgn2_6/ptodata/1/pna/US098B_COMB.seq: *
(cgn2_6/ptodata/1/pna/US099B_COMB.seq: *
(cgn2_6/ptodata/1/pna/US099B_COMB.seq: *
(cgn2_6/ptodata/1/pna/US099B_COMB.seq: *
(cgn2_6/ptodata/1/pna/US099B_COMB.seq: *
(cgn2_6/ptodata/1/pna/US099B_COMB.seq: *
(cgn2_6/ptodata/1/pna/US099B_COMB.seq: *
(cgn2_6/ptodata/1/pna/US090C_COMB.seq: *
(cgn2_6/ptodata/1/pna/US0003_COMB.seq: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GenCore version 4.5
Copyright (c) 1993 - 2000 Comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /cgn2_6/ptodata/1/pna/US07_COMB.seq:*
/cgn2_6/ptodata/1/pna/US080_COMB.seq:*
/cgn2_6/ptodata/1/pna/US081_COMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /cgn2_6/ptodata/1/pna/US06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /cgn2_6/ptodata/1/pna/PCTUS_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2002, 00:39:29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Search time 8184.59 Seconds (without alignments)
47.581 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6_COMB.seq:*
7_COMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMB.seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           43959072
```

```
44: /cgn2_6/ptodata/1/pna/US6005_COMB.seq:*
45: /cgn2_6/ptodata/1/pna/US6006_COMB.seq:*
46: /cgn2_6/ptodata/1/pna/US6006_COMB.seq:*
47: /cgn2_6/ptodata/1/pna/US6009_COMB.seq:*
48: /cgn2_6/ptodata/1/pna/US60010_COMB.seq:*
49: /cgn2_6/ptodata/1/pna/US6011_COMB.seq:*
51: /cgn2_6/ptodata/1/pna/US6011_COMB.seq:*
52: /cgn2_6/ptodata/1/pna/US6011_COMB.seq:*
53: /cgn2_6/ptodata/1/pna/US6011_COMB.seq:*
54: /cgn2_6/ptodata/1/pna/US6011_COMB.seq:*
55: /cgn2_6/ptodata/1/pna/US6016_COMB.seq:*
56: /cgn2_6/ptodata/1/pna/US6019_COMB.seq:*
57: /cgn2_6/ptodata/1/pna/US6019_COMB.seq:*
58: /cgn2_6/ptodata/1/pna/US6019_COMB.seq:*
60: /cgn2_6/ptodata/1/pna/US6020_COMB.seq:*
61: /cgn2_6/ptodata/1/pna/US6020_COMB.seq:*
62: /cgn2_6/ptodata/1/pna/US6020_COMB.seq:*
63: /cgn2_6/ptodata/1/pna/US6023_COMB.seq:*
64: /cgn2_6/ptodata/1/pna/US6023_COMB.seq:*
65: /cgn2_6/ptodata/1/pna/US6023_COMB.seq:*
66: /cgn2_6/ptodata/1/pna/US6023_COMB.seq:*
67: /cgn2_6/ptodata/1/pna/US6023_COMB.seq:*
68: /cgn2_6/ptodata/1/pna/US6023_COMB.seq:*
69: /cgn2_6/ptodata/1/pna/US6023_COMB.seq:*
70: /cgn2_6/ptodata/1/pna/US6033_COMB.seq:*
71: /cgn2_6/ptodata/1/pna/US6033_COMB.seq:*
72: /cgn2_6/ptodata/1/pna/US6033_COMB.seq:*
73: /cgn2_6/ptodata/1/pna/US6033_COMB.seq:*
74: /cgn2_6/ptodata/1/pna/US6033_COMB.seq:*
75: /cgn2_6/ptodata/1/pna/US6033_COMB.seq:*
76: /cgn2_6/ptodata/1/pna/US6033_COMB.seq:*
77: /cgn2_6/ptodata/1/pna/US6033_COMB.seq:*
78: /cgn2_6/ptodata/1/pna/US6033_COMB.seq:*
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Result No.
116.116.116.116.116.116.116.116.116.116	Score
833333333335666666666666666666666666666	Query Match
18 310 534 637 279 279 279 279 279 279 279 275 592 592 592 1153 7155 7153 7153 7153 7153 7153 7153	Length
18 18 18 18 18 10 10 11 11 11 11 11 11 11 11 11 11 11	DB
US-09-423-233-7 US-09-423-233-7 US-09-423-233-7 US-09-580-797-12 US-09-580-797-12 US-09-580-797-12 US-09-394-745-22526 US-09-654-617-323951 US-09-684-016-323951 US-09-684-016-323951 US-09-505-532-22896 US-09-108-427-6695 US-09-108-427-6695 US-09-270-8498-139165 US-09-373-376-4 US-09-373-36-4 US-09-373-376-4 US-09-373-376-4 US-09-373-376-4 US-09-373-376-4 US-09-373-376-4 US-09-373-376-4 US-09-373-376-4 US-09-372-1069 US-08-728-362-1069 US-08-728-362-1069 US-08-370-011-2992 US-08-370-011-2992 US-08-440-743-11466 US-09-540-229-911070	ID
Sequence 49, Appli Sequence 7, Appli Sequence 7, Appli Sequence 12, Appli Sequence 60978, A Sequence 25256, A Sequence 323951, Sequence 323951, Sequence 22896, A Sequence 22896, A Sequence 15057, Sequence 6095, Ap Sequence 124742, Sequence 139165, Sequence 4174, Ap Sequence 4174, Ap Sequence 4279, A Sequence 4279, A Sequence 2185, Ap Sequence 1069, Ap Sequence 1069, Ap Sequence 1069, Ap Sequence 2092, Ap Sequence 29170, A Sequence 29170, A Sequence 1546, Ap Sequence 1546, Ap Sequence 1546, Ap Sequence 1546, Ap	Description

```
Sequence 7, Application US/09423233
GENERAL INFORMATION:
APPLICANT: The Government of the United States of America as
TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Spec
TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 03063-0341WP
CURRENT APPLICATION NUMBER: US/09/423,233
CURRENT FILING DATE: 2000-06-27
NUMBER OF SEQ ID NOS: 61
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 7
LENGTH: 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 49, Application US/09423233
GENERAL INFORMATION:
APPLICANT: The Government of the United States of America as TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Spe: TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 03063-0341WP
CURRENT APPLICATION NUMBER: US/09/423,233
CURRENT FILING DATE: 2000-06-27
NUMBER OF SEQ ID NOS: 61
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 49
LENGTH: 18
                                                                                                             ; TYPE: DNA
; ORGANISM: Fusarium moniliforme
US-09-423-233-7
 밁
                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; ORGANISM: Fusarium moniliforme US-09-423-233-49
                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 1
US-09-423-233-49
                                                                                                                                                                                                                                                                                                    US-09-423-233-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0 0 0 0 0 0 0 0 0 0 0 0 0
                                             Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 100.
Best Local Similarity 100.
Matches 18; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         174 tctagtggcggtctcgct 191
             1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 18; DB 18; 100.0%; Pred. No. 14;
                                                             91.18;
94.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        255
264
277
277
280
280
280
280
281
293
293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11 US-09-540-229-106380

10 US-09-539-806-41390

11 US-09-540-229-114380

11 US-09-540-229-114380

12 US-09-540-766-58240

7 US-09-321-214-18008

19 US-09-321-214-18008

19 US-09-733-811-18008

19 US-09-733-811-18008

10 US-09-73-811A-18008

10 US-09-75-640A-18008

10 US-09-975-640A-18008

10 US-09-975-640A-18008

10 US-09-975-640A-18008

10 US-09-975-640A-18008

10 US-09-196-363-4820

US-08-196-363-4820
                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                             Score 16.4; DB 18; Pred. No. 1.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALIGNMENTS
                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                           Length 18;
                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 110380,
Sequence 11390, A
Sequence 114380, A
Sequence 58240, A
Sequence 18008, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 4820, Ap
Sequence 4820, Ap
Sequence 4820, Ap
                                                                         310;
                                                                                                                                                                                                                                                  Species
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Species
                                                0
                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                              0
                                                                                                                                                                                                                                                                                                                                                                                                   0
```

```
CURRENT APPLICATION NUMBER: US/09/961,755A
CURRENT FILING DATE: 2001-09-24
NUMBER OF SEQ ID NOS: 24
SOFTWARE: PatentIn version 3.0
SEQ ID NO 7
ENGTH: 534
TYPE: DNA
ORGANISM: Fusarium proliferatum
US-09-961-755A-7
                                                                                                                                                                                                                                                                                                                                                                                                                               ; SEQ ID NO 12
LENGTH: 637
: TYPE: DNA
: ORGANISM: Fusarium monilliformes
US-09-580-797-12
                                                                                                                                                                          US-09-270-849B-60978
                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            : Sequence 7, Application US/09961755A
: GENERAL INFORMATION:
: APPLICANT: Beck, Jim
: APPLICANT: Barnett, Jason
: TITLE OF INVENTION: Detection of Fusarium Species infecting Corn Using the
: TITLE OF INVENTION: Polymerase Chain Reaction
: FILE REFERENCE: 60055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 3
US-09-961-755A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-580-797-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 12, Application US/09580797

GENERAL IMPORMATION:
APPLICANT: Iwen, Peter C.
APPLICANT: Hinrichs, Steven H.
APPLICANT: Board of Regents of the University of Nebraska
APPLICANT: Board of Regents and Methods for Molecular
TITLE OF INVENTION: Materials and Methods for Molecular
TITLE OF INVENTION: Detection of Clinically Relevant Pathogenic Fungal Species
FILE REFERENCE: UNNC 63149
CURRENT APPLICATION NUMBER: US/09/580,797
CURRENT APPLICATION NUMBER: US/09/580,797
CURRENT FILING DATE: 2000-05-30
NUMBER OF SEQ ID NOS: 39
SOFTMARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 17
                                                                                         Sequence 60978, Application US/09270849B
GENERAL INFORMATION:
APPLICANT: Swimmer et al.
TITLE OF INVENTION: Insect genome survey devices
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                    FILE REFERENCE:
CURRENT APPLICATION NUMBER: US/09/270,849B
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 195450
SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                       402 tctagtggcggtctcgct 419
                                                                                                                                                                                                                                                                                                                                    Local Similarity
nes 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
mes 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                         1 totagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                    91.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       91.18;
                                                                                                                                                                                                                                                                                                                                Score 16.4; DB 2:
Pred. No. 1.3e+02:
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 16.4;
Pred. No. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .3e+02
                                                                                                                                                                                                                                                                                                                                                                      DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         36;
                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         534;
                                                                                                                                                                                                                                                                                                                                                                      637;
                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

```
APPLICANT: Andersen, Scott E.
APPLICANT: Conner, Timothy W.
APPLICANT: Lalgudi, Raghunath V.
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated with TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21 (15459)C
CURRENT APPLICATION NUMBER: US/09/565,306
CURRENT FILING DATE: 2000-05-04
NUMBER OF SEQ ID NOS: 83523
SEQ ID NO 46194
LENGTH: 279
TYPE: DNA
ORGANISM: Zea mays
OTHER INFORMATION: Clone ID: LIB3066-031-Q1-E1-F12
US-09-565-306-46194
   Ş
                                                                                                                                                                                                                                                                                                                                        US-09-565-306-46194 : Sequence 46194, Application US/09565306 ; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          : TYPE: DNA
: ORGANISM: Zea mays
: OTHER INFORMATION: Clone ID: LIB3066-031-Q1-E1-F12
US-09-394-745-22526
                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-394-745-22526; Sequence 22526; Apr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             : OTHER INFORMATION: Description of Artificial Sequence: Synthetic
US-09-270-849B-60978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/394,745
CURRENT FILING DATE: 1999-09-15
NUMBER OF SEQ ID NOS: 57264
SEQ ID NO 22526
LENGTH: 279
Type: ~~~~
                                Query Match
Best Local Similarity
Matches 16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT:
F1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID NO 60978
LENGTH: 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Lalgudi, TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                   82 cgagtgacggtctcgct 98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  41 ctagtgacgttctcgct 57
   2 ctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 ctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Fisher, Dane K.

Fisher, Dane K.

Lalgudi, Raghunath V.

NVENTION:

NUCLEIC ACID MOLECULES AND OTHER MOLECULES ASSOCIATED WITH
                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/09394745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           85.68;
94.18;
                                              85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                85.6%;
94.1%;
                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                             Score 15.4; DB 22; Pred. No. 4.6e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 15.4; DB 17
Pred. No. 4.6e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 15.4; DB 16; Pred. No. 4.5e+02;
                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 17;
                                Indels
                                                             Length 279;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 279;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                             RESULT 10
US-09-270-849B-105057
                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-684-016-323951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-654-617-323951
                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local :
LENGTH: 443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16;
```

```
Sequence 105057, Application US/09270849B
GENERAL INFORMATION:
APPLICANT: Swimmer et al.
TITLE OF INVENTION: Insect genome survey devices
FILE REFERENCE:
CURRENT APPLICATION NUMBER: US/09/270,849B
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 195450
SOFTMARE: Patentin Ver. 2.0
SEQ ID NO 105057
                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 323951, Application US/09684016
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Liu, Jingdong Annotated Plant Genes
TITLE OF INVENTION:
FILE REFERENCE:
GURRENT APPLICATION NUMBER: US/09/684,016
CURRENT FILING DATE: 2000-10-10
PRIOR APPLICATION NUMBER: US 09/654,617
PRIOR FILING DATE: 2000-09-05
NUMBER OF SEQ ID NOS: 463173
SEQ ID NO 323951
LENGTH: 279
TYPE: DNA
OBCANTION 32
                                                                                                                                                                                                                                                                                                                                                                                                  ; ORGANISM: Zea mays
US-09-684-016-323951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/09/654,617
CURRENT FILING DATE: 2000-09-05
NUMBER OF SEO ID NOS: 463173
SEQ ID NO 323951
LENGTH: 279
TYPE: DNA
ORGANISU-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Zea mays US-09-654-617-323951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 323951, App
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Kovalic,
APPLICANT: Liu, Jingdong
TITLE OF INVENTION:
FILE REFERENCE: 38:
                                                                                                                                                                                                                                        82 cgagtgacggtctcgct 98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity 94.: es 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               82 cgagtgacggtctcgct 98
                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Application US/09654617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kovalic, David K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                               85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                               Score 15.4; DB 2
Pred. No. 4.6e+02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 15.4; DB 25; Pred. No. 4.6e+02;
                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                               DB 27;
                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 279;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                 279;
                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
```

0

```
; ORGANISM: Artificial Sequence
; PEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
US-09-270-849B-105057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Arabidopsis thaliana columbia ; OTHER INFORMATION: unsure at all n locations US-09-505-532-22896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION NUMBER:
PRIOR FILING DATE:
US
NUMBER OF SEQ ID NOS:
SEQ ID NO 22896
LENGTH: 592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-505-532-22896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-819-091A-22896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 22896, Application US/09505532 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 16; Conserv
                                                                                                                     NUMBER OF SEQ ID NOS: 51470
SEQ ID NO 22896
LENGTH: 592
                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 22896,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: Plant Genome Sequences and Uses Thereof FILE REFERENCE: 38-10(15478)B
CURRENT APPLICATION NUMBER: US/09/505,532
CURRENT FILING DATE: 2000-02-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Cao, Yongwei
APPLICANT: Timberlake, William E.
TITLE OF INVENTION: Plant Ge
FILE REFERENCE: 38-10(15478)
                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 60/108,420 PRIOR FILING DATE: 1998-11-16 PRIOR APPLICATION NUMBER: US 60/120,645 PRIOR FILING DATE: 1999-02-18 PRIOR APPLICATION NUMBER: US 09/443,025 PRIOR FILING DATE: 1999-11-12
LOCATION: (1)..(592)
OTHER INFORMATION: unsure
-09-819-091A-22896
                                                                                                                                                                                                                                                                                    APPLICANT: Cao, Yongwei
APPLICANT: Timberlake, William E.
TITLE OF INVENTION: Plant Genome Sequences
FILE REFERENCE: 38-10(15478)B
CURRENT APPLICATION NUMBER: US/09/819,091A
CURRENT FILING DATE: 2000-02-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: DNA
                                   NAME/KEY: unsure LOCATION: (1)..(
                                                                        FEATURE:
                                                                                     ORGANISM: Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        253 tctagtgacgttctcgc 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     201 ctagtgccggtctcgct 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 tctagtgacggtctcgc 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                               Application US/09819091A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            85.6%;
94.1%;
                                                                                           thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      :
USSN 60/120,645 1999-02-18; USSN 09/443,025 1999-11-:
USSN 60/120,645 1999-02-18; USSN 09/443,025 1999-11-12;
51470
                      аt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 15.4;
Pred. No. 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 15.4; DB 19; Pred. No. 4.7e+02;
                                                                                           columbia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                      n locations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4;
4.6e+02;
1;
                                                                                                                                                                                                                                                                                                                                              and Uses Thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 443;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   592;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

```
NAME/KEY: misc_feature
LOCATION: 1..744
OTHER INFORMATION: Ceres
US-09-708-427-6695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 13
US-09-708-427-6695
                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
멍
                                                                                                                                       ; OTHER INFORMATION: Description of Artificial Sequence: US-09-270-849B-124742
                                                                                                                                                                                                                                                                                                                                                                                          US-09-270-849B-124742/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 6695, Application US/09708427

GENERAL INFORMATION:
APPLICANT: N. ALEXANDROV et al.
APPLICANT: N. ALEXANDROV et al.
TITLE OF INVENTION: SEQUENCE-DETERMINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTID TITLE OF INVENTION: THEREBY
FILE REFERENCE: 2750-1243P
CURRENT APPLICATION NUMBER: US/09/708,427
CURRENT FILING DATE: 2000-11-09
NUMBER OF SEQ ID NOS: 85364
SOFTWARE: Patentin version 3.1
SEQ ID NO 6695
LEBGTH: 744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 16; Conserv
                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/09/270,849B
CURRENT FILING DATE: 1994-03-17
NUMBER OF SEQ ID NOS: 195450
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 124742
LENGTH: 879
TYPE: DNA
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                         Sequence 124742, Application US/09270849B
GENERAL INFORMATION:
APPLICANT: Swimmer et al.
TITLE OF INVENTION: Insect genome survey devices
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 16; Conserv
                                                           Query Match
Best Local Similarity
Matches 16; Conserv
                                                                                                                                                                                                                                                                                                            FILE REFERENCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: misc_feature LOCATION: 1..744
OTHER INFORMATION: any n =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 ctagtgacggtctcgct 18
|||||| ||||||||||
| 201 ctagtgccggtctcgct 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                     218 ctagtgccggtctcgct 234
482 CTAGTGACGGTCTCTCT 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 ctagtgacggtctcgct 18
                2 ctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        85.6%;
94.1%;
                                                                          85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      85.6%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Seq.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 15.4; DB 31 Pred. No. 4.7e+02;
                                                                           Score 15.4;
Pred. No. 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 15.4;
Pred. No. 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ç
                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1816224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                t, unknown,
                                                                           4.7e+02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4.7e+02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 28;
                                                                                            DB 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 744;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                            Length 879;
                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            592;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                0
```

```
GenCord
Copyright (c) 1993
    version - 2000
    4.5
Compugen Ltd.
```

OM nucleic - nucleic search, using sw model

9 August 22, 2002, 00:50:50; Search time 663.62 Seconds (without alignments) 72.981 Million cell updates/sec

Title: Perfect score: US-10-046-955-49 18

Sequence: 1 tctagtgacggtctcgct 18

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched 1721111 seqs, 1345317543 residues

Total number of hits satisfying chosen parameters: 3442222

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100% Listing first 45 summaries

Database

Pending_Patents_NA_New:* : /cgn2_6/ptodata/2/pna/PCT_NEW_COMB.seq:*
: /cgn2_6/ptodata/2/pna/US06_NEW_COMB.seq:*
: /cgn2_6/ptodata/2/pna/US07_NEW_COMB.seq:*
: /cgn2_6/ptodata/2/pna/US08_NEW_COMB.seq:*
: /cgn2_6/ptodata/2/pna/US10_NEW_COMB.seq:*
: /cgn2_6/ptodata/2/pna/US10_NEW_COMB.seq:*
: /cgn2_6/ptodata/2/pna/US10_NEW_COMB.seq:*
: /cgn2_6/ptodata/2/pna/US10_NEW_COMB.seq:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

c 25	24											c 13		c 11	10	9	œ	c 7	6	ი 5	c 4	ი ა	N	1	Result
13.8	13.8	14	14	14	14	14	14	14	14	14	14	14.8	14.8	14.8	14.8	14.8	14.8	14.8	15	15	15	15	16.4	18	Score
76.7	76.7	77.8	77.8	77.8	77.8	77.8	77.8	77.8	77.8	77.8	77.8	82.2	82.2											100.0	Query Match
220	25	6255	5711	5691	4191	2140	1800	1666	736	295	277	25593	1549	1549	1192	599	599	403	1624	473	449	386	310	18	Length
7	S	5	5	Ŋ	7	-	7	σ	7	v	G	-	Մ	s	6	7	7	σ	5	Ç	S	G	7	7	BB
US-10-137-316-56	US-09-396-196G-117408	US-09-897-511A-13	US-09-897-511A-8	397	US-10-176-380-18	PCT-US02-22866-42	US-10-170-155-6	US-10-098-754-10959	US-10-006-773-12	US-09-540-210B-17019	US-09-539-331D-39667	PCT-US02-14011-1	US-09-634-754D-156	US-09-634-754C-156	US-10-098-754-3118	US-10-027-632-215235	US-10-027-632-215234	US-09-785-276A-2782	US-09-919-002-3555	US-09-918-995-1024	US-09-918-995-34287	US-09-918-995-33508	US-10-046-955-7	US-10-046-955-49	ID
Sequence 56, Appl	1174	Sequence 13, Appl	Sequence 8, Appli	Sequence 11, Appl	Sequence 18, Appl	Sequence 42, Appl	Sequence 6, Appli	Sequence 10959, A	Sequence 12, Appl	Sequence 17019, A	Sequence 39667, A	Sequence 1, Appli	Sequence 156, App	156, 1	Sequence 3118, Ap	Sequence 215235,	Sequence 215234,	Sequence 2782, Ap	Sequence 3555, Ap	Sequence 1024, Ap	Sequence 34287, A	Sequence 33508, A	Sequence 7, Appli	Sequence 49, Appl	Description

a	ი	C		o					o			ဂ					a		
5	44	43	42	41	40	39	38	37	36	ω 5	34	33	32	31	30	29	28	27	26
13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7
443	443	432	420	419	419	418	415	413	413	410	410	403	384	383	373	371	319	319	309
տ	S	7	Ç	ψı	ഗ	ഗ	J	Ŋ	ഗ	G	Ç,	5	IJ	υ	S	S	7	7	v
US-09-785-276A-40220	US-09-785-276A-32125	US-10-137-316-27	US-09-785-276A-2440	US-09-785-276A-42049	US-09-785-276A-33123	US-09-785-276A-32781	US-09-785-276A-7121	US-09-785-276A-33807	US-09-785-276A-12666	US-09-785-276A-41707	US-09-785-276A-37090	US-09-785-276A-10948	US-09-785-276A-11951	US-09-785-276A-11609	US-09-785-276A-3481	US-09-785-276A-12650	US-10-137-316-40	US-10-137-316-10	US-09-540-210B-34640
Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence
40220, A	32125, A	27, App1	2440, Ap	42049, A	33123, A	32781, A	7121, Ap	33807, A	12666, A	41707, A	37090, A	10948, A	11951, A	11609, A	3481, Ap	12650, A	40, Appl	10, Appl	3464U, A

ALIGNMENTS

```
HYPLICANI: CODI, Jong SOO

TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and
TITLE OF INVENTION: Other Filamentous Fungi
FILE REFERENCE: 6395-62064
CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
NUMBER OF SEO ID NOS: 61
SOFTWARE: Patentin Ver. 2.0
SEO ID NO 49
LENGTH: 18
TYPE: DNA
ORGANISM: Fusarium moniliforme
US-10-046-955-49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-046-955-49
                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
                                                                                                                                                         US-10-046-955-7
                                                                                                                                                                                      RESULT
Sequence 7, Application US/10046955; GENERAL INFORMATION:
APPLICANT: The Government of the United States of America, as Represented by the APPLICANT: Secretary of the Department of Health and Human Services, Centers for APPLICANT: Control and Prevention
APPLICANT: Morrison, Christine J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 49, Application US/10046955
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 18; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: The Government of the United APPLICANY: Secretary of the Department APPLICANY: Control and Prevention APPLICANY: Morrison, Christine J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Reiss, Errol
APPLICANT: Aidorevich, Lil
APPLICANT: Choi, Jong Soo
                                                                                                                                                                                                                                                       1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                 1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Reiss, Errol
Aidorevich, Liliana
                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 18; 100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               States of America, as Represented by the of Health and Human Services, Centers for
                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                            Length 18;
                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                  0
```

```
CURRENT APPLICATION NUMBER: US/09/918,995
CURRENT FILING DATE: 2001-07-30
PRIOR APPLICATION NUMBER: US/09/235,076
PRIOR FILING DATE: 1999-01-20
NUMBER OF SEQ ID NOS: 38054
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 33508
LENGTH: 386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
"~+~hes 17; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              : LENGTH: 310
: TYPE: DNA
: ORGANISM: Fusarium moniliforme
US-10-046-955-7
                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; ORGANISM: Homo sapiens US-09-918-995-33508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ş
                                                                                                                                                                                        US-09-918-995-34287/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-918-995-33508/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽
Sequence 34287, Application US/09918995
GENERAL INFORMATION:
APPLICANT: Hyseq, Inc.
APPLICANT: Hyseq, Inc.
TITLE OF INVENTION: NOVEL NUCLEIC ACID SEQUENCES OBTAINED
TITLE OF INVENTION: FROM VARIOUS CDNA LIBRARIES
FILE REFERENCE: 20411-756
CURRENT APPLICATION NUMBER: US/09/918,995
CURRENT FILING DATE: 2001-07-30
PRIOR APPLICATION NUMBER: US/09/235,076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 33508, Application US/09918995
GENERAL INFORMATION:
APPLICANT: Hyseq, Inc.
TITLE OF INVENTION: NOVEL NUCLEIC ACID SEQUENCES OBTAINED
TITLE OF INVENTION: FROM VARIOUS CDNA LIBRARIES
FILE REFERENCE: 20411-756
                                                                                                                                                                                                                                                                                                                                                           Query Match 83.3%;
Best Local Similarity 100.0%;
Matches 15; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: Nucleic Acids for Detecting Aspergillus Species and TITLE OF INVENTION: Other Filamentous Fungi FILE REFERENCE: 6395-62064
CURRENT APPLICATION NUMBER: US/10/046,955
CURRENT FILING DATE: 2002-06-04
PRIOR APPLICATION NUMBER: US 09/423,233
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR APPLICATION NUMBER: PCT/US98/08926
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR APPLICATION NUMBER: US 60/045,400
PRIOR FILING DATE: 1997-05-02
NUMBER OF SED ID NOS: 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                         174 tctagtggcggtctcgct 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Choi, Jong Soo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Aidorevich,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               91.1%;
94.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Liliana
                                                                                                                                                                                                                                                                                                                                                                                 Score 15; pred. No.
                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 16.4;
Pred. No. 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                              DB 5;
. 1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DΒ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7;
                                                                                                                                                                                                                                                                                                                                                                                                  Length 386;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 310;
                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
```

```
NUMBER OF SEQ ID NOS: 38054

SOFTWARE: FastSEQ for Windows Version 3.

SEQ ID NO 34287

LENGTH: 449

TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
FEATURE:
NAME/KEY: misc_feature
LOCATION: (1)...(449)
OTHER INFORMATION: n = A,T,C or G
US-09-918-995-34287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/918,995
CURRENT FILING DATE: 2001-07-30
PRIOR APPLICATION NUMBER: US/09/235,076
PRIOR FILING DATE: 1999-01-20
NUMBER OF SEQ ID NOS: 38054
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 1024
LENGTH: 473
TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; NAME/KEY: misc_feature
; LOCATION: (1)...(473)
; OTHER INFORMATION: n = A,T,C or
US-09-918-995-1024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 5
US-09-918-995-1024/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₽
                                                                                                                                                                                                                                                                    US-09-919-002-3555
                                                                                                                                                                                                                                Sequence 3555, Application US/09919002 GENERAL INFORMATION:
    APPLICANT: Leshkowitz, Dena
APPLICANT: Liu, Jin
TITLE OF INVENTION: NOVEL CONTIGS OBTAINED FROM VARIOUS CDNA
TITLE OF INVENTION: LIBRARIES
FILE REFERENCE: 20411-752CON1
CURRENT APPLICATION NUMBER: US/09/919,002
CURRENT FILING DATE: 2001-07-30
PRIOR APPLICATION NUMBER: APPLICATION NUMBER: 09/359,922
PRIOR FILING DATE: FILING DATE: 1999-07-22
PRIOR APPLICATION NUMBER: APPLICATION NUMBER: US 09/034,341
PRIOR FILING DATE: FILING DATE: 1998-02-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: Hyseq, I
                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1024, Application US/09918995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: NOVEL NUCLEIC ACID SEQUENCES TITLE OF INVENTION: FROM VARIOUS CDNA LIBRARIES FILE REFERENCE: 20411-756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR FILING DATE: 1999-01-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                            230 AGTGACGGTCTCGCT 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity 100 nes 15; 'Conservative
                                                                                                                                                                                                                                                                                                                                                                                  4 agtgacggtctcgct 18
OF SEQ ID NOS: 13203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              h 83.3%;
Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                83.3%; 5cc
100.0%; Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                      Score 15; DB 5;
Pred. No. 1e+02;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 15; DB 5;
Pred. No. 1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 473;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 449;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OBTAINED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
```

```
APPLICANT: Endege, Wilson
APPLICANT: Endege, Wilson
APPLICANT: Endege, Wilson
TITLE OF INVENTION: NOVEL GENES, COMPOSITIONS, KITS, AND METHODS FOR
TITLE OF INVENTION: IDENTIFICATION, ASSESSMENT, PREVENTION, AND THERAPY OF
TITLE OF INVENTION: HUMAN PROSTATE CANCER
FILE REFERENCE: MRI-007B
CURRENT APPLICATION NUMBER: US/09/785,276A
CURRENT APPLICATION NUMBER: 60/183,319
PRIOR APPLICATION NUMBER: 60/183,319
PRIOR FILING DATE: 2000-02-17
PRIOR APPLICATION NUMBER: 60/207,454
PRIOR FILING DATE: 2000-05-05
PRIOR APPLICATION NUMBER: 60/207,454
PRIOR FILING DATE: 2000-06-09
PRIOR FILING DATE: 2000-06-09
PRIOR FILING DATE: 2000-06-09
PRIOR FILING DATE: 2000-07-18
PRIOR APPLICATION NUMBER: 60/211,314
PRIOR FILING DATE: 2000-07-18
PRIOR FILING DATE: 2000-07-18
PRIOR FILING DATE: 2000-07-18
PRIOR FILING DATE: 2000-12-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; TYPE: DNA; ORGANISM: Homo sapiens US-09-919-002-3555
                                                                                                                                           RESULT 8
US-10-027-632-215234
                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                             ; NAME/KEY: misc_feature
; LOCATION: 211, 216, 362, 364
; OTHER INFORMATION: n = A,T,C
US-09-785-276A-2782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-785-276A-2782/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: FastSEQ
SEQ ID NO 3555
                                                                                              Sequence 215234, Application US/10027632 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 2782, Application US/09785276A GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local :
                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 2782
                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
APPLICANT: Wang, David G.
TITLE OF INVENTION: Identification and Mapping of Single Nucleotide
TITLE OF INVENTION: Polymorphisms in the Human Genome
FILE REFERENCE: 108827.129
CURRENT APPLICATION NUMBER: US/10/027,632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Schlegel. Robert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 62232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 403
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Homo sapiens FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 1624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1387 agtgacggtctcgct 1401
                                                                                                                                                                                                                              350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Match 83.3%;
Local Similarity 100.0%;
nes 15; Conservative
                                                                                                                                                                                                                        1 tctagtgacggtctcgct 18
||||||||||||
50 TCTAGTGACGGGTTCGCT 33:
                                                                                                                                                                                                                                                                                                       Local Similarity
mes 16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4 agtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                              82.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                   ٥ŗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 15;
Pred. No.
                                                                                                                                                                                                                                                                                                                              Score 14.8;
Pred. No. 1.
                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                              8; DB 5;
1.3e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 5;
1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 1624;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                    Length 403;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0,
                                                                                                                                                                                                                                                                                                           0
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; ORGANISM: Human US-10-027-632-215234
                 Ş
                                                                                                                                                     ; ORGANISM: Human 
US-10-027-632-215235
                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 60/218,006
PRIOR FILING DATE: 2000-07-12
PRIOR PRIOR APPLICATION NUMBER: US 60/198,676
PRIOR FILING DATE: 2000-04-20
PRIOR APPLICATION NUMBER: US 60/193,483
PRIOR APPLICATION NUMBER: US 60/185,218
PRIOR APPLICATION NUMBER: US 60/185,218
PRIOR FILING DATE: 2000-02-24
PRIOR APPLICATION NUMBER: US 60/167,363
PRIOR FILING DATE: 1999-11-23
PRIOR FILING DATE: 1999-11-3
PRIOR APPLICATION NUMBER: US 60/156,358
PRIOR FILING DATE: 1999-09-28
PRIOR FILING DATE: 1999-09-28
PRIOR FILING DATE: 1999-08-09
NUMBER OF SEQ ID NOS: 325720
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-027-632-215235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 215234
LENGTH: 599
                                                                                                                                                                                                                                 SEQ ID NO 215235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Wang, Do
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                         Matches
                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 215235, Application US/10027632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: Identification and Mapping of Single Nucleotide TITLE OF INVENTION: Polymorphisms in the Human Genome FILE REFERENCE: 108827.129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: US 60/156,358
PRIOR FILING DATE: 1999-09-28
PRIOR APPLICATION NUMBER: US 60/146,002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION NUMBER: US 60/185,218
PRIOR FILING DATE: 2000-02-24
PRIOR APPLICATION NUMBER: US 60/167,363
PRIOR FILING DATE: 1999-11-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: US (PRIOR FILING DATE: 2000-03-29)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US 60/218,006 PRIOR FILING DATE: 2000-07-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/10/027,632 CURRENT FILING DATE: 2002-04-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS:
SOFTWARE: FastSEQ for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR FILING DATE: 1999-08-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: US 60/198,676 PRIOR FILING DATE: 2000-04-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
                                                                                                                                                                                         TYPE: DNA
                                                                                                                                                                                                           ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 totagtgacggtctcgct 18
1 tctagtgacggtctcgct 18
                                                                                                                                                                                                             599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16;
                                                       16; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           David G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    325720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2002-04-30
                                                                       82.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82.2%;
88.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60/193,483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0,
                                                       0
                                                                       Score 14.8;
Pred. No. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 14.8;
Pred. No. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.3e+02;
                                                                       .3e+02;
                                                                                         DB 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 599;
                                                                                         Length 599;
                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                       Gaps
                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

밁

206 tctagagacggtctggct 223

```
В
                                 ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; NAME/KEY: misc_feature
; LOCATION: (1)...(1192)
; OTHER INFORMATION: n = A,T,C or
US-10-098-754-3118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-634-754C-156/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 10
US-10-098-754-3118
                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: DETECTING EXPRESSION OF GENES ENCODING SECRETED PROTEINS FILE REFERENCE: PA-0017 US CURRENT APPLICATION NUMBER: US/09/634,754C CURRENT FILING DATE: 2002-04-26 NUMBER OF SEO ID NOS: 809 SOFTWARE: PERL Program SEO ID NO 156 LENGTH: 1549
                                                                           Matches
                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 156, Application US/09634754C GENERAL INFORMATION:
                                                                                                                                                               NAME/KEY: misc_feature
OTHER INFORMATION: Incyte ID
PUBLICATION INFORMATION:
-09-634-754C-156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 3118
LENGTH: 1192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 3118, Application US/10098754 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Lal, Preeti
APPLICANT: Au-Young, Janice
APPLICANT: Guegler, Karl J.
APPLICANT: Baughn, Mariah R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Harrington, John J.
APPLICANT: Jackson, P. David
APPLICANT: Sherf, Bruce A.
APPLICANT: Sherf, Bruce A.
APPLICANT: Cain, Scott
APPLICANT: Ramachandran, Rakesh
TITLE OF INVENTION: NOVEL NUCLEIC ACID AND PROTEIN HOMOLOGS AND USES THEREOF
FILE REFERENCE: ATX-001CN
CURRENT APPLICATION NUMBER: US/10/098,754
CURRENT APPLICATION NUMBER: US/0791539
PRIOR APPLICATION NUMBER: US/0791539
PRIOR APPLICATION UNMBER: US/0791539
PRIOR SEQ ID NOS: 21107
SOFTMARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                          TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                            FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 343 TCTGGTGAAGGTCTCGCT 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity 88.9%;
                   1 tctagtgacggtctcgct 18
                                                                         16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Shah, Purvi
                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                         82.2%;
88.9%;
                                                                                                                                                                                                      No:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                   Score 14.8; DB 5;
Pred. No. 1.3e+02;
0; Mismatches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 14.8; DB 6;
Pred. No. 1.3e+02;
                                                                                                                                                                                                      2822724CT1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                          DB 5;
                                                                                                        Length 1549;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1192;
                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                   Gaps
                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
```

```
APPLICANT: Genalssance Pharmaceuticals, Inc.
APPLICANT: Gentivegna, Steven C.
APPLICANT: Gilson, Christopher
APPLICANT: Koshy, Beena
APPLICANT: Sanchis, Angela
APPLICANT: Sanchis, Angela
APPLICANT: Sausker, Elizabeth Ann
TITLE OF INVENTION: HAPLOTYPES OF THE RXRA GENE
FILE REFERENCE: MWH-0858PCT
CURRENT APPLICATION NUMBER: PCT/US02/14011
CURRENT FILING DATE: 2002-05-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; NAME/KEY: misc_feature
OTHER INFORMATION: Incyte
; PUBLICATION INFORMATION:
US-09-634-754D-156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SED ID NOS: 809
SOFTWARE: PERL Program
SEQ ID NO 156
LENGTH: 1549
TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PCT-US02-14011-1/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-634-754D-156/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 156, Application US/09634754D GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                         SOFTWARE: PatentIn version 3.1
SEQ ID NO 1
LENGTH: 25593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 1, Application PC/TUS0214011 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: 60/288,475
PRIOR FILING DATE: 2001-05-03
NUMBER OF SEQ ID NOS: 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Lal, Preeti
APPLICANT: Au-Young, Janice
APPLICANT: Guegler, Karl J.
APPLICANT: Baughn, Mariah R.
APPLICANT: Shah, Purvi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: DETECTING EXPRESSION OF GENES ENCODING SECRETED PROTEINS FILE REFERENCE: PA-0017 US CURRENT APPLICATION NUMBER: US/09/634,754D CURRENT FILING DATE: 2002-04-22
FEATURE:

NAME/KEY: misc_feature
LOCATION: (12702). (12801)

OTHER INFORMATION: N's represent breaks
OTHER INFORMATION: 4683871
                                                                                                         NAME/KEY: allele LOCATION: (7685).. OTHER INFORMATION:
                                                                                                                                                                           NAME/KEY: allele
COCATION: (7648)...(7648)
OTHER INFORMATION: PS1: polymorphic base cytosine or thymine
                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens FEATURE:
                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                               TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   343 TCTGGTGAAGGTCTCGCT 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 tctagtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ch 82.2%;
l Similarity 88.9%;
l6; Conservative
                                                                                                                            ..(7685)
                                                                                                      PS2: polymorphic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            No: 2822724CT1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 14.8; DB 5;
Pred. No. 1.3e+02;
                                                                                                      base adenine
                     between Genaissance Reference Nos. 468376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 5;
                                                                                                      or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1549;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                    cytosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
```

```
NAME/KEY: misc_feature LOCATION: (21779)..(21) OTHER INFORMATION: N's
                                                            NAME/KEY: allele
LOCATION: (20779)..(20779)
OTHER INFORMATION: PS13: polymorphic
                                                                                                                            NAME/KEY: allele
LOCATION: (20542)..(20542)
OTHER INFORMATION: PS12: p
                                                                                                                                                                                       NAME/KEY: allele
LOCATION: (20488)..(20488)
OTHER INFORMATION: PS11: polymorphic
                                                                                                                                                                                                                                                   NAME/KEY: allele
LOCATION: (20395)..(20395)
OTHER INFORMATION: PS10: polymorphic
                                                                                                                                                                                                                                                                                                                   NAME/KEY: misc_feature
LOCATION: (18469)..(18469)
OTHER INFORMATION: N represents
                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
NAME/KEY: misc_feature
LOCATION: (18461)...(18461)
OTHER INFORMATION: N represents
                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: misc_feature
LOCATION: (18417)...(18417)
OTHER INFORMATION: N represents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: misc_feature
LOCATION: (18377)..(18377)
OTHER INFORMATION: N represents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: allele
LOCATION: (17989)..(17989)
OTHER INFORMATION: PS9: polymorphic base guanine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: allele
LOCATION: (17688)...(17688)
OTHER INFORMATION: PS8: polymorphic base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: misc_feature
LOCATION: (16521)..(16620)
OTHER INFORMATION: N's represent
OTHER INFORMATION: 4683835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: allele
LOCATION: (16124)...(16124)
OTHER INFORMATION: PS7: polymorphic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: allele
LOCATION: (16077)...(16077)
OTHER INFORMATION: PS6: polymorphic base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: allele
LOCATION: (16071)...(16071)
OTHER INFORMATION: PS5: polymorphic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
NAME/KEY: allele
LOCATION: (15759)..(15759)
OTHER INFORMATION: PS4: polymorphic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: misc_feature
LOCATION: (1598)..(15197)
OTHER INFORMATION: N'S represent breaks
OTHER INFORMATION: 4683825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: allele
LOCATION: (14001)...(14001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
 .(21878)
N's rep
 represent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       polymorphic base
                                                                                                                            polymorphic
                                                                                                                                                                                                                                                                                                                                                                                      an
                                                                                                                                                                                                                                                                                                                                                                                                                                                      an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    an
                                                                                                                                                                                                                                                                                                                          an
 breaks
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              breaks
                                                                                                                                                                                                                                                                                                                          unknown
                                                                                                                                                                                                                                                                                                                                                                                      unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                      unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            base
                                                               base
                                                                                                                               base
                                                                                                                                                                                            base
                                                                                                                                                                                                                                                            base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         between
   between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cytosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cytosine or thymine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cytosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            guanine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        guanine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 thymine
                                                               adenine
                                                                                                                              guanine
                                                                                                                                                                                            guanine
                                                                                                                                                                                                                                                          guanine
                                                                                                                                                                                                                                                                                                                                                                                      nucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                    nucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      nucleotide
                                                                                                                                                                                                                                                                                                                        nucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Genaissance Reference Nos. 4683871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Genaissance Reference Nos.
   Genaissance
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  or adenine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              or
                                                               or
                                                                                                                               or
                                                                                                                                                                                            or
                                                                                                                                                                                                                                                          or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               guanine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              adenine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            thymine
                                                                                                                                                                                            adenine
                                                               guanine
                                                                                                                                                                                                                                                            adenine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            guanine
   Reterence
   Nos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4683825
 4683835
```

```
; NAME/KEY: allele
; LCGATION: (25185)..(25185)
; OTHER INFORMATION: PS27: polymorphic
PCT-US02-14011-1
                   ş
В
                                         Query Match
Best Local Similarity
Matches 16; Conserv
                                                                                                                                                                                                                                             FEATURE:
NAME/KEY: allele
NAME/TON: (24824)...
                                                                                                                                                                                       NAME/KEY: allele
NAME/KEY: allele
(24917)..(24917)
                                                                                                                                                                                                                                                                                                                           NAME/KEY: allele
LOCATION: (24504)..(24504)
OTHER INFORMATION: PS22: po
                                                                                                                                                                                                                                                                                                                                                                                                       LOCATION: (24434).
OTHER INFORMATION:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: allele
LOCATION: (22117).
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: allele LOCATION: (22090). OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: allele
LOCATION: (22040).
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: allele
LOCATION: (22016).
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                              NAME/KEY: allele
LOCATION: (24660)
                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: allele
LOCATION: (24462)..
                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: allele
LOCATION: (24434)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: allele
LOCATION: (22320)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: allele
LOCATION: (22076)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: FEATURE:
                                                                                                                                                     OTHER INFORMATION:
                                                                                                                                                              NAME/KEY: allele
LOCATION: (25048)..
                                                                                                                                                                                                                                          OTHER INFORMATION:
                                                                                                                                                                                                                                                                                     OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
 6169
                  1 tctagtgacggtctegct
 TCTAGTGGCTGTCTCGCT
                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                              )..(22320)
N: PS19: p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   )..(22090)
N: PS17: p
                                                                                                                                                                                                                                         ..(24824)
: PS24: pc
                                                                                                                                                                                                                                                                                   ..(24660)
: PS23: po
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .(22117)
PS18: po
                                                                                                                                                                                                                                                                                                                                                                       .(24462)
PS21: pc
                                                                                                                                                                                                                                                                                                                                                                                                                   .(24434)
PS20: pc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .(22076)
PS16: po
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .(22040)
PS15: po
                                                                                                                                                   .(25048)
PS26: po
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .(22016)
PS14: po
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and 4683853
                                                    82.2%;
 6152
                    18
                                                                                                                                                                                              polymorphic
                                                                                                                                                                                                                                                                                   polymorphic
                                                                                                                                                                                                                                                                                                                              polymorphic
                                                                                                                                                                                                                                                                                                                                                                                                                   polymorphic
                                                                                                                                                                                                                                                                                                                                                                                                                                                              polymorphic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         polymorphic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   polymorphic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               polymorphic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          polymorphic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     polymorphic base
                                                                                                                                                   polymorphic
                                                                                                                                                                                                                                        polymorphic
                                                                                                                                                                                                                                                                                                                                                                       polymorphic
                                                   Score 14.8;
Pred. No. 1
                                          Mismatches
                                                                                                                                                                                                                                                                                   base
                                                                                                         base
                                                                                                                                                                                              base
                                                                                                                                                                                                                                                                                                                                                                                                                   base
                                                                                                                                                                                                                                                                                                                               base
                                                                                                                                                                                                                                                                                                                                                                                                                                                              base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            base
                                                                                                                                                     base
                                                                                                                                                                                                                                          base
                                                                                                                                                                                                                                                                                                                                                                         base
                                                    DB 1;
.4e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    guanine
                                                                                                                                                                                                                                                                                   guanine
                                                                                                                                                                                                                                                                                                                               adenine
                                                                                                                                                                                                                                                                                                                                                                                                                   guanine
                                                                                                                                                                                                                                                                                                                                                                                                                                                             cytosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cytosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cytosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                thymine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cytosine
                                                                                                        cytosine
                                                                                                                                                   guanine
                                                                                                                                                                                              cytosine
                                                                                                                                                                                                                                          adenine
                                                                                                                                                                                                                                                                                                                                                                         adenine
                                                                                                                                                                                                                                          ç
                                                                                                                                                                                                                                                                                                                               ဝူ
                                                                                                                                                                                                                                                                                                                                                                                                                   or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      or
P
                                                                                                                                                     ဝူ
                                                                                                                                                                                                                                                                                    ç
                                                                                                                                                                                                                                                                                                                                                                         ç
                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                             or guanine
                                                                                                                                                                                              or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            or thymine
                                                                                                         ٥ŗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          or thymine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or thymine
                                                                                                                                                                                                                                                                                                                                                                                                                    adenine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cytosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       adenine
                                                                                                                                                                                                                                        guanine
                                                                                                                                                                                                                                                                                                                               guanine
                                                                                                                                                                                                                                                                                     adenine
                                                                                                                                                                                              thymine
                                                                                                         thymine
                                                               25593;
                                         0
                                         Gaps
```

RESULT 14 US-09-539-331D-39667/c; Sequence 39667, Appli ; GENERAL INFORMATION:

Application US/09539331D

```
: NAME/KEY: unsure
: LOCATION: 26, 38, 55, 70, 111, 124, 126, 128, 134, 147, 150-151, 168, 171, 189,
: LOCATION: 191, 209, 235, 238, 241, 258, 275
: OTHER INFORMATION: a, t, c, g, or other
US-09-539-331D-39667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ş
                                                                                                              PRIOR FILING DATE: September 29, 1995
PRIOR APPLICATION NUMBER: 08/824,029
PRIOR FILING DATE: March 25, 1997
PRIOR APPLICATION NUMBER: 60/014,010
PRIOR FILING DATE: March 25, 1996
PRIOR APPLICATION NUMBER: 08/826,847
PRIOR FILING DATE: APPI1 10, 1997
PRIOR FILING DATE: APPI1 10, 1997
PRIOR APPLICATION NUMBER: 60/015,533
PRIOR FILING DATE: APPI1 10, 1996
PRIOR APPLICATION NUMBER: 08/903,555
                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: 08/972,899
PRIOR FILING DATE: November 18, 1997
PRIOR APPLICATION NUMBER: 08/395,244
PRIOR FILLING DATE: February 27, 1995
PRIOR APPLICATION NUMBER: 08/722,922
PRIOR FILLING DATE: September 27, 1996
PRIOR APPLICATION NUMBER: 60/005,526
PRIOR FILLING DATE: September 29, 1995
PRIOR FILLING DATE: September 29, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-540-210B-17019/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 77.1
Best Local Similarity 93.1
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/539,331D
CURRENT FILING DATE: 2000-03-30
Prior Application removed - See File Wrapper or Palm
NUMBER OF SEQ ID NOS: 40961
SOFTMARE: PERL Program
SEQ ID NO 39667
LENGTH: 277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Mullahy, Sara J.
APPLICANT: Naughton, Rebecca E.
TITLE OF INVENTION: POLYNUCLEOTIDES OF URINARY TRACT TISSUE
FILE REFERENCE: PD-1037 CIP
CURRENT APPLICATION NUMBER: US/09/540,210B
CURRENT FILING DATE: 2002-04-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
APPLICANT:
PRIOR FILING DATE: July 31, 1997
PRIOR APPLICATION NUMBER: 60/023,308
PRIOR FILING DATE: July 31, 1996
PRIOR APPLICATION NUMBER: 08/862,178
PRIOR FILING DATE: May 22, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Seilhamer, Jeffrey J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Naughton, Rebecca E.
TITLE OF INVENTION: POLYNUCLEOTIDES OF CARDIOVASCULAR SYSTEM TISSUE
FILE REFERENCE: PD-1022 CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: misc_feature
OTHER INFORMATION: Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   37 AGTGACGGTCTNGCT 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4 agtgacggtctcgct 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Seilhamer, Jeffrey
Delegeane, Angelo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Stuve, Laura L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Stuve, Laura L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Delegeane, Angelo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mullahy, Sara J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Application US/09540210B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Incyte ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77.8%;
93.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 м .ч
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         No: hu00747836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 14; DB 5;
Pred. No. 3.7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
```

PRIOR FILING DATE: June 30, 1998
PRIOR APPLICATION NUMBER: 60,052,751
PRIOR APPLICATION NUMBER: 09/094,079
PRIOR APPLICATION NUMBER: 09/094,079
PRIOR FILING DATE: June 9, 1998
PRIOR PRIOR FILING DATE: June 13, 1997
PRIOR FILING DATE: June 13, 1997 SOFTWARE: PERL Program SEQ ID NO 17019 LENGTH: 295 TYPE: DNA PRIOR FILING DATE: June 13, NUMBER OF SEQ ID NOS: 35654 OR APPLICATION NUMBER: 60/023,308
OR FILING DATE: July 31, 1996
OR APPLICATION NUMBER: 08/905,881
OR APPLICATION NUMBER: 08/905,881
OR APPLICATION NUMBER: 60/025,204
OR APPLICATION NUMBER: 60/025,204
FOR FILING DATE: AUGUST 1, 1996
FOR APPLICATION NUMBER: 08/903,471
FOR FILING DATE: July 30, 1997 DR FILING DATE: March 5, 1997

OR APPLICATION NUMBER: 09/041,894

DR FILING DATE: March 12, 1998

DR APPLICATION NUMBER: 60/040,199

DR FILING DATE: March 14, 1997

DR APPLICATION NUMBER: 09/050,817

DR APPLICATION NUMBER: 09/050,817

DR FILING DATE: March 30, 1998 OR APPLICATION NUMBER: 60/030,144
OR FILING DATE: October 30, 1996
OR APPLICATION NUMBER: 08/826,847
OR FILING DATE: April 10, 1997
OR APPLICATION NUMBER: 60/015,533
OR FILING DATE: April 10, 1996
OR APPLICATION NUMBER: 60/755,524
OR APPLICATION NUMBER: 08/755,524
OR FILING DATE: NOVember 22, 1996
OR APPLICATION NUMBER: 60/007,495
DR APPLICATION NUMBER: 60/025,217

DR FILING DATE: August 22, 1996

DR APPLICATION NUMBER: 80/937,142

DR FILING DATE: September 23, 1997

DR APPLICATION NUMBER: 60/026,598

R FILING DATE: September 24, 1996 R FILING DATE: July 30, R APPLICATION NUMBER: 60, R FILING DATE: July 31, R APPLICATION NUMBER: 08, R FILING DATE: July 31, R FILING DATE: July 31, APPLICATION NUMBER: 09/107,592 FILING DATE: April 11, 1997
APPLICATION NUMBER: 09/074,999
FILING DATE: May 8, 1998 APPLICATION NUMBER: 60/040,431
APPLICATION NUMBER: 60/040,431 FILING DATE: February 10, 1998 APPLICATION NUMBER: 60/039,325 FILING DATE: February 13, 1997 APPLICATION NUMBER: 60/043,792 FILING DATE: April 11, 1997 FILING DATE: June 24, APPLICATION NUMBER: 6 FILING DATE: June 25, APPLICATION NUMBER: 60/048,431 APPLICATION NUMBER: 09/021, APPLICATION NUMBER: 08/960, FILING DATE: October 29, 19 FILING DATE: May 23, 1996 APPLICATION NUMBER: 08/881,589 APPLICATION NUMBER: 60/018,217 APPLICATION NUMBER: July 31, 08/903,556 1, 1997 60/025,478 60, 08/903,802

FEATURE:

ORGANISM: Homo sapiens

```
| CHMER/REY: misc. feature | NAME/REY: masure | Name ```

```
Result
No.
 Database
 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
 Minimum DB
Maximum DB
 Total number of hits satisfying chosen parameters:
 Searched:
 Scoring table:
 Perfect score:
 OM nucleic - nucleic search, using sw model
 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
 Score
 seg length: 0
seg length: 2000000000
 Query
Match Length DB
 GenEmbl: *
 August 21, 2002, 22:09:50 ; Search time 2238.68 Seconds (without alignments) 168.259 Million cell updates/sec
 IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
 US-10-046-955-50
18
 1797656 seqs, 10463268293 residues
 1 cgttaattcgcgttcctc 18
 GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
 gb_pat:*
gb_ph:*
gb_pr:*
gb_pr:*
 gb_om:*
gb_ov:*
 em_htg_hum:*
em_htg_inv:*
em_htg_other:*
 em_sts:*
em_un:*
em_vi:*
 em_mu:*
em_on:*
em_or:*
em_ov:*
em_pat:*
em_ph:*
em_pl:*
 gb_sts:*
gb_sy:*
gb_un:*
gb_v1:*
em_ba:*
 em_htgo_inv:*
 em_in:*
 em_hum:*
 em_fun:*
 ID
 SUMMARIES
 3595312
Description
```

O

| 45             | 44           | 43            | 4.2          | 4            | 4            | . (.)<br>(2) | , (x        | , u         | ) (L       | 3 5         | ) (L        | . (L        | 32          | ω         | 30          | 29          | 28          | 27       | 26       | 25       | 24           | 23       | 22         | 21       | 20         | 19      | 18        | 17            | 16      | 15        | 14      | 13    | 12               | 11           | 10           | 9            | œ             | 7              | 6               | ഗ             | 4      | w             | 2             | _        |
|----------------|--------------|---------------|--------------|--------------|--------------|--------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|-----------|-------------|-------------|-------------|----------|----------|----------|--------------|----------|------------|----------|------------|---------|-----------|---------------|---------|-----------|---------|-------|------------------|--------------|--------------|--------------|---------------|----------------|-----------------|---------------|--------|---------------|---------------|----------|
| 16.4           | 16.4         | 16.4          | 16.4         | 16.4         | 16.4         | 0            |             | ١٥          | ٥          | 16.4        | ۱ ـ         | 18          | 18          | 18        | 18          | 18          | 18          | 18       | 18       | 18       | 18           | 18       | 18         | 18       | 18         | 18      | 18        | 18            | 18      | 18        | 18      | 18    | 18               | 18           | 18           | 18           | 18            | 18             | 18              | 18            | 18     | 18            | 18            | 18       |
| 91.1           | :            | :             | :            |              |              | :            | :           | 7           | :          |             | ٠           |             |             |           | ٠.          | ٠.          | ۲.          |          | ٠.       | ٠.       | ٠.           | ٠.       |            |          |            |         |           |               |         |           | 0       | 0     | _                | 0            | 0            | 0            | 0             | 0              | 0               | O             | 0      | 100.0         | 0             | 0        |
|                |              |               |              |              |              |              |             |             |            |             |             | 6           |             |           |             |             |             |          |          |          |              |          |            |          |            |         |           |               |         |           |         |       |                  |              |              |              |               |                |                 |               |        | 336           |               |          |
| 80             | 80           | 80            | 8            | æ            | 00           | 00           | 8           | σ           | œ          | 00          | 00          | 00          | æ           | 8         | 8           | 8           | æ           | 8        | 8        | 8        | œ            | œ        | œ          | œ        | <b>6</b> 0 | 8       | 80        | æ             | 8       | æ         | Φ,      | œ (   | <b>20</b> (      | 30           | 00           | ω .          | œ             | 8              | œ               | 8             | 8      | 8             | 8             | 8        |
| F4             | F44          | AF440545      | •            | 4            | 4            | 4            | AF440535    | AF440526    | AF440525   | AF132799    | FO58RRNA    | 4           | AF322076    | Ψ         | AF322074    | FOVCN58     | FOVCB58     | FOVBIE58 | FOXYRRNA | AF242876 | AF176656     | FOU34566 | 9          | AF055220 | 4          | 4       | 4         | ~             | F4      | F4        | F4      | F 4   | Δ.               | φ,           |              | 7            |               | F.             | F)              | g             | g      | AF162900      | AF162899      | AF162898 |
| F440547 Fusari | 440546 Fusar | F440545 Fusar | 440544 Fusar | 440541 Fusar | 440537 Fusar | 36 Fusa      | 440535 Fusa | 440526 Fusa | 440525 Fus | 132799 Fusa | 7991 F.oxys | 43071 Fusar | 322076 Fusa | 22075 Fus | 322074 Fusa | 8258 F.oxys | 8259 F.oxys | 0<br>F.o | 4173 F   | 242876   | 76656 Fusari | 4566 Ft  | 069310 Fus | F055220  | F440562 1  | F440560 | F440538 I | F440533 Fusar | F440563 | F440561 F | F440552 | 44054 | 5/4/05/10 5::55/ | E440530 Fire | F440534 Find | F440532 Fusa | 440531 Fusari | F440529 Fusari | F440527 Fusario | 8161 Fusarium | 159 Fu | 162900 Fusari | 162899 Fusari | 628      |

#### ALIGNMENTS

AF162898
LOCUS
AF162898
LOCUS
AF162898
LOCUS
DEFINITION
Fusarium oxysporum f. sp. conglutinans 5.8s ribosomal RNA gene, partial sequence; internal transcribed spacer 2, complete sequence; and 28s ribosomal RNA gene, partial sequence.

ACCESSION
AF162898
VERSION
AF162898.1 GI:5690387
KEYWORDS
SOURCE
ORGANISM
Fusarium oxysporum f. sp. conglutinans.
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes; Hypocreales; mitosporic Hypocreales; Fusarium; Fusarium oxysporum complex.

REFERENCE
AUTHORS
AUTHORS
AUTHORS
JUN-1999
Min.B.R.
TITLE
JURNAL
Submitted (28-JUN-1999) Biology, SangMyung University, 7 Hong Ji
FEATURES
SOURCE
LOcation/Qualifiers
Source
/organism-"Fusarium oxysporum f. sp. conglutinans"
/strain="MAFF 744001"

```
RESULT
AF162900
 ACCESSION
VERSION
 Ş
 REFERENCE
AUTHORS
 SOURCE
ORGANISM
 ACCESSION
VERSION
KEYWORDS
 RESULT
AF162899
 BASE COUNT
ORIGIN
 DEFINITION
 밁
 BASE COUNT
ORIGIN
 FEATURES
 á
 DEFINITION
 Locus
 밁
 TITLE
JOURNAL
 Query Match
Best Local S
Matches 18
 Query Match
Best Local
 rRNA
 rRNA
 misc_RNA
 source
 162
 rRNA
 misc_RNA
 162
 1 cgttaattcgcgttcctc 18
 CGTTAATTCGCGTTCCTC 179
 CGTTAATTCGCGTTCCTC 179
 cgttaattcgcgttcctc 18
 AF162900 336 bp DNA linear PLN 04-AUG-1999 Fusarium oxysporum f. sp. raphani 5.8S ribosomal RNA gene, partial sequence; internal transcribed spacer 2, complete sequence; and 28S ribosomal RNA gene, partial sequence.
AF162900
AF162900.1 GI:5690389
 l Similarity
18; Conserv
 Direct Submission
Submitted (28-JUN-1999) Biology, Submitted (28-JUN-1999) Biology, Dong, Chong Ro-Gu, Seoul 110-743, Location/Qualifiers
 Fusarium oxysporum f. sp. fragariae.
Fusarium oxysporum f. sp. fragariae
Eukaryota; Fungi, Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; mitosporic Hypocreales; Fusarium; Fusarium oxysporum
 Min, B.R.
 AF162899 335 bp DNA linear PLN 04-AUG-1999 FUSABILIMENT OXYSPOTUM f. Sp. fragariae 5.85 ribosomal RNA gene, partial sequence; internal transcribed spacer 2, complete sequence; and 285 ribosomal RNA gene, partial sequence.
 1 Similarity
18; Conserv
 AF162899.1 GI:5690388
 AF162899
 (bases 1 to 335)
 88
 Conservative
 68
 Conservative
 D
 /product="28S ribosomal RNA"
81 c 82 g 84 t
 /product="internal transcribed spacer 278. .>335
 /product="5.8S ribosomal RNA" 129. .277
 /product="5.8S ribosomal RNA" 129. .277
 /note="forma specialis: fragariae"
 /organism="Fusarium oxysporum
/strain="MAFF 744009"
 /product="28S ribosomal RNA"
81 c 82 g 83 t
 /db_xref="taxon:100903"
 /product="internal transcribed 278. .>335
 /db_xref="taxon:100902"
/note="forma specialis: conglutinans"
 100.0%;
 100.0%;
 . 128
 .>335
 0
 0
 Score 18;
Pred. No.
 Score 18; DB
Pred. No. 12;
 Mismatches
 Mismatches
 SangMyung
, Korea
 DB
 8
 8
 0,
 f.
 0,
 spacer
 Length 335;
 Length 335;
 sp.
 Indels
 University, 7 Hong
 Indels
 fragariae"
 2
 2
 PLN 04-AUG-1999
 0
 0;
 Gaps
 Gaps
 υŢ
 0,
 0;
```

```
BASE COUNT
ORIGIN
 REFERENCE
AUTHORS
 SOURCE
ORGANISM
 RESULT
FOU28159
LOCUS
 BASE COUNT
ORIGIN
 REFERENCE
AUTHORS
 밁
 KEYWORDS
SOURCE
 FEATURES
 δÃ
 DEFINITION
 KEYWORDS
 VERSION
 ACCESSION
 FEATURES
 Matches
 TITLE
 JOURNAL
 Query Match
Best Local
 JOURNAL
 ORGANISM
 misc_RNA
 rRNA
 misc_RNA
 misc_RNA
 rRNA
 source
 163 CGTTAATTCGCGTTCCTC 180
 1 cgttaattcgcgttcctc 18
 Fusarium oxysporum.
Fusarium oxysporum
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Eukaryota; Fungi; Ascomycota; Pusarium; Fusarium oxyspo
 FOUZ8159 455 bp DNA linear PLN 08-JUN-19: Fusarium oxysporum strain DAOM 213391 internal transcribed spacer region ITS1, 5.8S ribosomal RNA gene, and internal transcribed spacer region ITS2. includes the 5.8S gene.
 Submitted (31-MAY-1995) Artie Duggal, Forestry, University of Toronto, 33 Willcocks St., Toronto, Ontario M5S 3B3, Canada
 18;
 Duggal, A.
 U28159.1 GI:852527
 Submitted (28-JUN-1999) Biology, Spong, Chong Ro-Gu, Seoul 110-743, Location/Qualifiers 1.336
 Fusarium oxysporum f. sp. raphani.
Fusarium oxysporum f. sp. raphani
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; mitosporic Hypocreales; Fusarium; Fusarium oxysporum
 Direct Submission
 Direct Submission
 Min, B.R.
 complex.
 h 100.0%;
Similarity 100.0%;
18; Conservative (
 (bases 1 to 336)
 (bases 1 to 455)
 119
 9
 /note="int-
 /product="5.8S ribosomal RNA" 305. .455
 /organism="Fusarium oxysporum"
/strain="DAOM 213391"
/db_xref="Taxon:5507"
/note="The fungus was determined by Seifert K.A. and isolated from wilted carnations from Kenya by Tewari
 148. .304
 Location/Qualifiers
 /product="28S ribosomal RNA"
81 c 82 g 84 t
 /product="internal transcribed
275. .>336
 /product="5.8S ribosomal RNA"
129. .274
 'note="internal transcribed spacer region; ITS1"
 /note-"
 /organism="Fusarium oxysporum f.
/db_xref="taxon:96318"
 122 c
 .>336
 internal transcribed spacer region; ITS2" c 100 g 114 t
 forma specialis: raphani"
 0,
 Score 18; DB
Pred. No. 12;
 9
 Mismatches
 SangMyung University, 7 Hong , Korea
 8
 0,
 spacer
 Length 336;
 sp.
 Indels
 Fusarium oxysporum
 PLN 08-JUN-1995
 0
 J.P.
 Ji
 0
```

Query Match

Best Local Similarity

100.0%; 100.0%;

Score Pred.

No.

в ;:

Length 455;

```
VERSION
KEYWORDS
 RESULT
FOU28161
 REFERENCE
AUTHORS
 RESULT
AF440527
LOCUS
 REFERENCE
AUTHORS
 SOURCE
ORGANISM
 ACCESSION
VERSION
KEYWORDS
 LOCUS
DEFINITION
 SOURCE
 REFERENCE
 日
 ş
 BASE COUNT
ORIGIN
 В
 Ş
 ACCESSION
 DEFINITION
 FEATURES
 TITLE
JOURNAL
 TITLE
 ORGANISM
 Query Match
Best Local
 AUTHORS
 JOURNAL
 Matches
 Matches
 misc_RNA
 misc_RNA
 source
 338
 338
 1 cgttaattcgcgttcctc 18
 Match
 6
 CGTTAATTCGCGTTCCTC
 cgttaattcgcgttcctc
 POU28161 455 bp DNA linear PLN 08-JUN-1995 Fusarium oxysporum strain CBS 171.31 internal transcribed spacer region ITS1, 5.8S ribosomal RNA gene, and internal transcribed spacer region ITS2. includes the 5.8S gene.
 Bao, J.R., Fravel, D.R. and Lazarovits, G. Genetic analysis of pathogenic and nonp from tomato plants Can. J. Bot. (2002) In press 2 (bases 1 to 456)
 18; Conservative
 complete sequence. AF440527 AF440527.1 GI:180
 AF440527 456 bp DNA linear PLN 02-JAN-
Fusarium oxysporum isolate 14RK-11 internal transcribed spacer
5.8S ribosomal RNA gene, and internal transcribed spacer 2,
 Fusarium oxysporum.
Fusarium oxysporum
Fusarium oxysporum
Eukaryota; Fung1; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; mitosporic Hypocreales; Fusarium; Fusarium oxysporum
 18;
 Bao, J.R.,
 complex.
 Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; mitosporic Hypocreales; Fusarium; Fusarium oxyspo
 Fusarium oxysporum
 Fusarium oxysporum.
 Submitted (31-MAY-1995) Artie Duggal, Forestry, University of Toronto, 33 Willcocks St., Toronto, Ontario M5S 3B3, Canada
 Direct Submission
 Duggal, A.
 U28161.1 GI:852529
 (bases 1 to 456)
 (bases 1 to 455)
 120
 Conservative
 ø
 Fravel, D.R. and Lazarovits, G.
 /note="internal t
122 c 99
 /product="5.8S ribosomal RNA" 305. .455
 /note="The fungus was isolated and identified Wollenweber H.W. from Pinus sp. from Germany"
 /note="internal transcribed spacer region; ITS1"
 /organism-"Fusarium oxysporum"
/strain-"CBS 171.31"
/db_xref-"taxon:5507"
 Location/Qualifiers
 GI:18034395
 100
 18
 .0%;
 .0%;
 0;
 0;
 Score 18;
Pred. No.
 transcribed spacer region; ITS2*9 g 114 t
 Mismatches
 Mismatches
 DB 8;
 nonpathogenic
 0;
 0;
 Length 455;
 Indels
 Fusarium oxysporum
 PLN 02-JAN-2002
 0,
 0
 þу
 oxysporum
 Gaps
 0;
 0
B
```

```
JOURNAL
REFERENCE
AUTHORS
TITLE
 RESULT
AF440529
 Š
 BASE COUNT
ORIGIN
 REFERENCE
AUTHORS
 SOURCE
ORGANISM
 γ
 BASE COUNT
ORIGIN
 밁
 FEATURES
 KEYWORDS
 DEFINITION
 FEATURES
 VERSION
 ACCESSION
 Query Match
Best Local S
Matches 18
 Query Match
Best Local Similarity 100.
 TITLE
JOURNAL
 TITLE
 JOURNAL
 rRNA
 misc_RNA
 misc_RNA
 rRNA
 misc_RNA
 misc_RNA
 source
 source
339
 339
 1 cgttaattcgcgttcctc 18
 cgttaattcgcgttcctc 18
 CGTTAATTCGCGTTCCTC
 Direct Submission
Submitted (29-OCT-2001) Vegetable Laboratory, USDA-ARS, 10300
Baltimore Ave, BARC-West, Beltsville, MD 20705, USA
Location/Qualifiers
 AF440529 456 bp DNA linear PLN 02-JAN-2002 Fusarium oxysporum isolate 35RK-14 internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2,
 l Similarity
18; Conserv
 from tomato plants
Can. J. Bot. (2002) In press
2 (bases 1 to 456)
Bao, J.R., Fravel, D.R. and Lazarovits, G.
Direct Submission
 Fusarium oxysporum.
Fusarium oxysporum
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; mitosporic Hypocreales; Fusarium; Fusarium oxysporum
 Submitted (29-OCT-2001) Vegetable Laboratory, USDA-ARS, Baltimore Ave, BARC-West, Beltsville, MD 20705, USA Location/Qualifiers
 complete sequence. AF440529
 Bao,J.R., Fravel,D.R. and Lazarovits,G.
 AF440529.1 GI:18034397
 (bases 1 to 456)
 120
 120
 100.0%;
ilarity 100.0%;
Conservative (
 b
 ω
 /product="internal transcribed spacer 124 c 99 g 113 t
 /product≃"5.8S ribosomal RNA"
306. .456
 /product="internal transcribed 148. .305
 /product="internal transcribed 124 c 99 g 113 t
 /product="5.8S ribosomal RNA" 306. .456
 /organism="Fusarium oxysporum"
/isoiate="35RK-14"
 1. .456
 /db_xref="taxon:5507"
 /product="internal transcribed
 /db_xref="taxon:5507"
 /organism="Fusarium oxysporum"
/isolate="14RK-11"
 100.0%;
 356
 0
 0;
 Score 18; DB
Pred. No. 12;
 Score 18;
Pred. No.
 Mismatches
 Mismatches
 DB
12;
 8
 8;
 0
 <u>.</u>
 spacer
 spacer
 spacer
 Length 456;
 Indels
 1,
 Ŋ
 0
 0
 Gaps
 Gaps
 0
 0
```

```
JOURNAL
REFERENCE
AUTHORS
 REFERENCE
AUTHORS
 ACCESSION
VERSION
KEYWORDS
 RESULT
AF440532
 ACCESSION
VERSION
KEYWORDS
 RESULT
AF440531
LOCUS
 ş
 JOURNAL
REFERENCE
AUTHORS
TITLE
 REFERENCE
AUTHORS
TITLE
 В
 BASE COUNT
ORIGIN
 SOURCE
 SOURCE
 LOCUS
DEFINITION
 FEATURES
 DEFINITION
 Query Match
Best Local S
Matches 18
 TITLE
 ORGANISM
 JOURNAL
 JOURNAL
 rRNA
 misc_RNA
 misc_RNA
 339
 1 cgttaattcgcgttcctc 18
 CGTTAATTCGCGTTCCTC 356
 from tomato plants
Can. J. Bot. (2002) In press
2 (bases 1 to 456)
Bao,J.R., Fravel,D.R. and Lazarovits,G.
Direct Submission
 Bao, J.R., Fravel, D.R. and Lazarovits, G. Genetic analysis of pathogenic and nonp
 Fusarium oxysporum.
Fusarium oxysporum
Eukaryota; Fungi; Ascomycota; Pezizomycotina; ;
Buydryota; Fungi; Ascomycota; Pezizomycotina; ;
Hypocreales; mitosporic Hypocreales; Fusarium;
 complete sequence.
AF440532
 AF440532 456 bp DNA linear PLN 02-JAN-2 Fusarium oxysporum isolate 73RK-1 internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2,
 l Similarity
18; Conser
 Submitted (29-OCT-2001) Vegetable Laboratory, USDA-ARS, 10300 Baltimore Ave, BARC-West, Beltsville, MD 20705, USA
 Bao,J.R., Fravel,D.R. and Lazarovits,G. Genetic analysis of pathogenic and nonpathogenic from tomato plants Can. J. Bot. (2002) In press 2 (bases 1 to 456) Bao,J.R., Fravel,D.R. and Lazarovits,G.
 Fusarium oxysporum
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; mitosporic Hypocreales; Fusarium; Fusarium oxyspo
 AF440531 456 bp DNA linear PLN 02-JAN-2002 Fusarium oxysporum isolate 44RK-35 internal transcribed spacer 1, 5.85 ribosomal RNA gene, and internal transcribed spacer 2,
Submitted (29-OCT-2001) Vegetable Laboratory, USDA-ARS, 10300
 complex.
 Direct Submission
 complete sequence.
 AF440531.1 GI:18034399
 Fusarium oxysporum
 (bases 1 to 456)
 (bases 1 to 456)
 120
 100.0%; ilarity 100.0%; Conservative (
 /product="5.8S ribosomal RNA" 306. .456
 /product="internal transcribed spacer 2"
124 c 99 σ 113 +
 /organism="Fusarium oxysporum"
/isolate="44RK-35"
 /product="internal transcribed
148. .305
 db_xref="taxon:5507"
 ocation/Qualifiers
 GI:18034400
 . 456
 0;
 Score 18; DB Pred. No. 12;
 Mismatches
 nonpathogenic
 8;
 0,
 spacer 1"
 Length 456;
 Indels
 Sordariomycetes; Fusarium oxyspo
 Fusarium oxysporum
 Fusarium oxysporum
 PLN 02-JAN-2002
 0;
 oxysporum
 oxysporum
 0,
```

```
REFERENCE
AUTHORS
TITLE
 REFERENCE
AUTHORS
 ACCESSION
VERSION
KEYWORDS
 BASE COUNT
ORIGIN
В
 Ş
 Q
 BASE COUNT
ORIGIN
 맒
 FEATURES
 SOURCE
 DEFINITION
 AF440534
 RESULT 10
 FEATURES
 Best Loc
Matches
 Query Match
Best Local Similarity
Matches 18; Conserv
 JOURNAL
 JOURNAL
 TITLE
 ORGANISM
 rRNA
 misc_RNA
 source
 misc_RNA
 source
 misc_RNA
 misc_RNA
 339
 Local
 1 cgttaattcgcgttcctc 18
CGTTAATTCGCGTTCCTC
 Bao,J.R., Fravel,D.R. and Lazarovits,G.
Genetic analysis of pathogenic and nonpathogenic Fusarium oxysporum
from tomato plants
Can. J. Bot. (2002) In press
2 (bases 1 to 456)
Bao,J.R., Fravel,D.R. and Lazarovits,G.
 Submitted (29-OCT-2001) Vegetable Laboratory, USDA-ARS, 10300 Baltimore Ave, BARC-West, Beltsville, MD 20705, USA Location/Qualifiers
 Direct Submission
 Fusarium oxysporum
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
 AF440534 Linear I Fusarium oxysporum isolate AL22 internal transcribed ribosomal RNA gene, and internal transcribed spacer :
 Baltimore
 Hypocreales; mitosporic Hypocreales; Fusarium; Fusarium oxysporum
 AF440534.1
 Fusarium oxysporum
 Similarity
 (bases 1 to 456)
 120
 120
 Conservative
 Conservative
 /product="internal transcribed spacer 2" 124 c 99 g 113 t
 /product="5.8S ribosomal RNA" 306. .456
 /product="5.8S ribosomal RNA" 306. .456
 /product="internal transcribed 148. .305
 /product="internal transcribed spacer
124 c 99 g 113 t
 1. .456
 Ave, BARC-West, Be Location/Qualifiers
 /product="internal transcribed
 /db_xref="taxon:5507"
 /organism≃"Fusarium oxysporum"
/isolate="AL22"
 /db_xref="taxon:5507"
 /organism≂"Fusarium oxysporum"
/isolate="73RK-1"
 GI:18034402
 100.0%;
 100
356
 356
 000
 0
 0,
 Score 18; DB
Pred. No. 12;
0; Mismatches
 Score 18;
Pred. No.
 Mismatches
 Beltsville, MD 20705, USA
 DB
12;
 рв
12;
 8;
 8
 0;
 spacer
 spacer
 Length 456;
 Length 456
 Indels
 Indels
 PLN 02-JAN-2002
1 spacer 1, 5.8S
 0
 0,
 Gaps
 Gaps
 0
 0
```

```
JOURNAL
REFERENCE
AUTHORS
TITLE
 REFERENCE
AUTHORS
TITLE
 ACCESSION
VERSION
KEYWORDS
 RESULT 1
AF440540
 BASE COUNT
ORIGIN
 JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
 SOURCE
ORGANISM
 ACCESSION
VERSION
 B
 ş
 RESULT 11
AF440539
 FEATURES
 SOURCE
 DEFINITION
 FEATURES
 DEFINITION
 KEYWORDS
 ocus
 REFERENCE
 Query Match
Best Local S
Matches 18
 AUTHORS
TITLE
 JOURNAL
 ORGANISM
 misc_RNA
 source
 misc_RNA
 339
 cgttaattcgcgttcctc 18
 CGTTAATTCGCGTTCCTC
 l (bases 1 to 456)
Bao, J. R., Fravel, D.R. and Lazarovits, G.
Genetic analysis of pathogenic and nonp
from tomato plants
can. J. Bot. (2002) In press
2 (bases 1 to 456)
Bao, J. R., Fravel, D.R. and Lazarovits, G.
 AF44U54U 456 bp
Fusarium oxysporum isolate DEH2
ribosomal RNA gene, and internal
Direct Submission
Submitted (29-OCT-2001) Vegetable Laboratory, USDA-ARS, 10300
Baltimore Ave, BARC-West, Beltsville, MD 20705, USA
Location/Qualifiers
 Fusarium oxysporum
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; mitosporic Hypocreales; Fusarium; Fusarium oxyspo
 l Similarity
18; Conserv
 Submitted (29-OCT-2001) Vegetable Laboratory, USDA-ARS, 10300 Baltimore Ave, BARC-West, Beltsville, MD 20705, USA
 can.
 Bao, J.R., Fravel, D.R. and Lazarovits, G. Genetic analysis of pathogenic and nonp
 sequence. AF440539
 AF440539 456 bp DNA linear PLN 02-JAN-2002 Fusarium oxysporum isolate DEH1 internal transcribed spacer 1, 5.8s ribosomal RNA gene, and internal transcribed spacer 2, complete
 AF440539 456 bp Fusarium oxysporum isolate DEH1
 complex.
 Fusarium oxysporum
 AF440540.1
 sequence.
 Direct Submission
 Bao, J.R., Fravel, D.R. and Lazarovits, G
 Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; mitosporic Hypocreales; Fusarium; Fusarium oxyspo
 Fusarium oxysporum
 Fusarium oxysporum
 complex.
 AF440539.1 GI:18034407
 from tomato plants
 n. J. Bot. (2002) In press
(bases 1 to 456)
 (bases 1 to 456)
 120
 100.0%;
llarity 100.0%;
Conservative (
 þ
 /product="5.8S ribosomal RNA" 306. .456
 /organism="Fusarium oxysporum"
/isolate="DEH1"
/db_xref="taxon:5507"
 /product="internal transcribed spacer 2"
124 c 99 g 113 t
 /product="internal transcribed spacer 1" 148. .305
 Location/Qualifiers
 GI:18034408
 .456
 356
 0
 Score 18;
Pred. No.
 Mismatches
 and nonpathogenic
 DNA linear PLN 02-J
internal transcribed spacer
l transcribed spacer 2, compl
 DB
. 12;
 nonpathogenic
 8
 0;
 Length 456
 Indels
 Fusarium oxysporum
 Fusarium oxysporum
 PLN 02-JAN-2002
d_spacer 1, 5.8S
 0
 oxysporum
 oxysporum
 Gaps
 0;
```

```
BASE COUNT
ORIGIN
 JOURNAL
REFERENCE
AUTHORS
TITLE
 REFERENCE
AUTHORS
TITLE
 RESULT 1
AF440542
 В
 SOURCE
 밁
 Š
 FEATURES
 KEYWORDS
 VERSION
 ACCESSION
 DEFINITION
 ORIGIN
 BASE COUNT
 Locus
 Matches
 Query Match
Best Local
 JOURNAL
 Matches
 Query Match
Best Local
 misc_RNA
 rRNA
 misc_RNA
 rRNA
 source
 misc_RNA
 misc_RNA
 source
 339
 100.0%;
1 Similarity 100.0%;
18; Conservation
 18;
 sequence.
AF440542
 Fusarium oxysporum.
Fusarium oxysporum
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; mitosporic Hypocreales; Fusarium; Fusarium oxyspo;
 Submitted (29-OCT-2001) Vegetable Laboratory, USDA-ARS, 10300 Baltimore Ave, BARC-West, Beltsville, MD 20705, USA Location/Qualifiers
 from tomato plants
Can. J. Bot. (2002) In press
2 (bases 1 to 456)
Bao, J.R., Fravel, D.R. and Lazarovits, G.
 Bao, J.R., Fravel, D.R. and Lazarovits, G. Genetic analysis of pathogenic and nonpathogenic
 AF440542 456 bp DNA linear I Fusarium oxysporum isolate Fo47 internal transcribed ribosomal RNA gene, and internal transcribed spacer:
 Direct Submission
 AF440542.1
 Similarity 100.
18; Conservative
 (bases 1 to 456)
 120
 120
 /product="5.8S ribosomal RNA"
306. .456
 /product="internal transcribed spacer 148. .305
 /product="5.8S ribosomal RNA"
306. .456
 /product="internal transcribed spacer 124 c 99 g 113 t
 /product="internal transcribed
148. .305
 /db_xref="taxon:5507"
1. .147
 /organism="Fusarium oxysporum'
/isolate="Fo47"
 /product="internal transcribed 124 c 99 g 113 t
 /organism="Fusarium oxysporum"
/isolate="DEH2"
 /db_xref-"taxon:5507"
 . .456
 GI:18034410
 100.0%;
 356
 0
 0,
 Score 18;
Pred. No.
 Score 18;
Pred. No.
 Mismatches
 Mismatches
 DB
12;
 DB
12;
 8
 8
 0;
 0,:
 spacer
 spacer
 Length 456;
 Length 456;
 Indels
 Indels
 ۲,
 Fusarium oxysporum
 1 spacer 1, 1
2, complete
 PLN 02-JAN-2002
1 spacer 1, 5.8S
 0
 0
 oxysporum
 Gaps
 Gaps
 0
 ç
```

RESULT 14 AF440552

```
BASE COUNT
ORIGIN
 JOURNAL
REFERENCE
AUTHORS
TITLE
 REFERENCE
AUTHORS
TITLE
 ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
 LOCUS
DEFINITION
 REFERENCE
AUTHORS
TITLE
 ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
 JOURNAL
REFERENCE
AUTHORS
TITLE
 RESULT 1
AF440561
 ₽
 á
 FEATURES
 DEFINITION
 LOCUS
 FEATURES
 Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 18; Conservative 0
 JOURNAL
 JOURNAL
 misc_RNA
 misc_RNA
 source
source
 AF440552 456 bp DNA linear PLN 02-JAN-2002 Fusarium oxysporum isolate IA7 internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete
 AF440561 456 bp DNA linear PLN 02-JAN-2002 Fusarium oxysporum isolate PEII internal transcribed spacer 1, 5.85 ribosomal RNA gene, and internal transcribed spacer 2, complete
 Submitted (29-OCT-2001) Vegetable Laboratory, USDA-ARS, 10300
Baltimore Ave, BARC-West, Beltsville, MD 20705, USA
Location/Qualifiers
 2 (bases 1 to 456)
Bao,J.R., Fravel,D.R. and Lazarovits,G.
 Bao,J.R., Fravel,D.R. and Lazarovits,G. Genetic analysis of pathogenic and nonpathogenic from tomato plants can. J. Bot. (2002) In press
 Fusarium oxysporum
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Hypocreales; mitosporic Hypocreales; Fusarium; Fusarium oxyspo
 AF440552
AF440552.1 GI:18034420
 Bao,J.R., Fravel,D.R. and Lazarovits,G.
Genetic analysis of pathogenic and nonpathogenic Fusarium oxysporum
from tomato plants
Can. J. Bot. (2002) In press
2 (bases 1 to 456)
Bao,J.R., Fravel,D.R. and Lazarovits,G.
Direct Submission
 Direct Submission
 Fusarium oxysporum.
 Fusarium oxysporum.
Fusarium oxysporum
Fusarium oxysporum
Eusarium oxysporum
Eusaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Eukaryota; Fungi, Ascomycota; Pezizomycotina; Fusarium oxysporum
 Submitted (29-OCT-2001) Vegetable Laboratory, USDA-ARS, 10300
Baltimore Ave, BARC-West, Beltsville, MD 20705, USA
Location/Qualifiers
 complex.
 AF440561.1
 sequence.
 (bases 1 to 456)
 (bases 1 to 456)
 120
 D
 /product="5.8S ribosomal RNA" 306. 456
 /product="internal transcribed spacer 124 c 99 g 113 t
 /product="internal transcribed 148. .305
 /db_xref="taxon:5507"
 ∕organism="Fusarium oxysporum"
 'isolate="IA7"
 GI:18034429
 0
 Score 18; DB
Pred. No. 12;
 Mismatches
 8; Length 456;
 0;
 spacer 1"
 Indels
 Fusarium oxysporum
 0;
 oxysporum
 Gaps
 0;
```

/organism="Fusarium oxysporum"

```
BASE COUNT
ORIGIN
 밁
 Ş
 Query Match
Best Local Similarity
Matches 18; Conserv
 rRNA
 misc_RNA
 misc_RNA
120
 Conservative
 þ
 /product="internal transcribed spacer 148. 305
 /product="internal transcribed 124 c 99 g 113 t
 /product="5.8S ribosomal RNA" 306. 456
 /isolate="PEI1"
/di_xref="taxon:5507"
1. .147
 100.0%;
 356
 0;
 Score 18; DB Pred. No. 12; O; Mismatches
 DB
 0;
 spacer
 Length 456;
 Indels
 0;
 Gaps
```

0

Search completed: August 21, 2002, 22:09:51 Job time: 14205 sec

```
Title:
Perfect score:
 Run
 Scoring table:
 OM nucleic -
 Minimum DB seq length: 0
Maximum DB seq length: 2000000000
 Searched:
 Database
 Post-processing: Minimum Match 0%
 Total number of hits satisfying chosen parameters:
 9:
 nucleic search, using &w model
 N_Geneseq_032802:*
1: /SIDS1/gcgdata/g
2: /SIDS1/gcgdata/g
3: /SIDS1/gcgdata/g
4: /SIDS1/gcgdata/g
5: /SIDS1/gcgdata/g
6: /SIDS1/gcgdata/g
6: /SIDS1/gcgdata/g
8: /SIDS1/gcgdata/g
9: /SIDS1/gcgdata/g
11: /SIDS1/gcgdata/g
10: /SIDS1/gcgdata/
11: /SIDS1/gcgdata/
11: /SIDS1/gcgdata/
11: /SIDS1/gcgdata/
12: /SIDS1/gcgdata/
13: /SIDS1/gcgdata/
14: /SIDS1/gcgdata/
15: /SIDS1/gcgdata/
16: /SIDS1/gcgdata/
17: /SIDS1/gcgdata/
18: /SIDS1/gcgdata/
19: /SIDS1/gcgdata/
20: /SIDS1/gcgdata/
21: /SIDS1/gcgdata/
22: /SIDS1/gcgdata/
23: /SIDS1/gcgdata/
23: /SIDS1/gcgdata/
24: /SIDS1/gcgdata/
24: /SIDS1/gcgdata/
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1981.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1981.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1981.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1982.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1983.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1983.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1985.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1985.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1986.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1986.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1986.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1989.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1991.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1991.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1993.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1994.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1995.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA1999.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA2000.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA2000.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA2000.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA2000.DAT:*
| SIDS1/gcgdata/geneseq/geneseqn-embl/NA2001.DAT:*
 IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
 US-10-046-955-50
18
 August 21, 2002, 22:22:44;
 Maximum Match 100%
Listing first 45 summaries
 1736436 segs, 858457221 residues
 1 cgttaattcgcgttcctc
 GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd
 18
 Search time 594.49 Seconds (without alignments) 51.985 Million cell updates/sec
 3472872
```

pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

### SUMMARIES

| o<br>9             | င                  | 7                  | 6                  | տ                  | c<br>4             | c<br>u             | 2                  | - }                | Result<br>No.            |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------------|
| 14.8               | 14.8               | 14.8               | 14.8               | 15                 | 15                 | 15                 | 18                 | 18                 | Score                    |
| 82.2               | 82.2               | 82.2               | 82.2               | 83.3               | 83.3               | 83.3               | 100.0              | 100.0              | Query<br>Match Length DB |
| 3257               | 3138               | 1200               | 650                | 9212               | 250                | 128                | 382                | 18                 | Length                   |
| 23                 | 23                 | 23                 | 22                 | 20                 | 23                 | 23                 | 21                 | 20                 |                          |
| ABL12624           | AAS52883           | ABL12625           | AAS05503           | AAX13271           | AAS47978           | AAS48419           | AAA72783           | AAV83697           | ID                       |
| Drosophila melanog | Enterococcus faeca | Drosophila melanog | Mammalian vestibul | Enterococcus faeca | Enterococcus faeca | Enterococcus faeca | 5.8s rRNA gene seg | Species-specific p | Description              |

| XX<br>PF     | S B        | X P                 | Y T T T T                                      | 80 S                      | × × × × × × × × × × × × × × × × × × ×                                                                                                                                                                   | X DE               | X D        | ž č       | RESULT<br>AAV8369<br>ID AA |            | იი                                       |            | 0                  |                    |                                          |                    | O                                        |                    |                    | იი                   |                    |                    |                   |                                         |                    |                    |                      | იი                   |          | O                        |                                                                |
|--------------|------------|---------------------|------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------|-----------|----------------------------|------------|------------------------------------------|------------|--------------------|--------------------|------------------------------------------|--------------------|------------------------------------------|--------------------|--------------------|----------------------|--------------------|--------------------|-------------------|-----------------------------------------|--------------------|--------------------|----------------------|----------------------|----------|--------------------------|----------------------------------------------------------------|
| 01-MAY-      | 12-N       | 860M                | Key<br>modi                                    | Synt<br>Fusa              | Interr<br>A. nig<br>Mucor<br>M. cii<br>R. cii<br>Cunnir                                                                                                                                                 | Spec               | 26-F       | AAV8      | JLT 1<br>33697<br>AAV83    |            | 44                                       | 43         | 2 <del>1</del>     | 40                 | 3<br>8<br>8                              | 37                 | 3 5                                      | ω u<br>4- u        | 3 2                | 30<br>31             | 29                 | 27                 | 25                | 23<br>24                                | 22                 | 20                 | 18<br>19             | 16<br>17             | 15       | 13                       | 10<br>11<br>12                                                 |
| MY-1998      | 2-NOV-1998 | WO9850584- <i>i</i> | Key<br>modified_base                           | Synthetic.<br>Pusarium ox | nternal transcribed s. niger; A. terreus; cucor rouxii; M. racem circinalloides f. c. circinans; R. stolounninghamella elegans enicillium notatum; S                                                    | ies-spec           | FEB-1999   | AAV83697; | 697                        |            | 13.8<br>13.8                             | 13.8       | 13.8               | 13.8               | 13.8                                     | 13.8               | 13.8                                     | 13.8               | 13.8               | 13.8                 | 13.8               | 13.8               | 13.8              | 13.8<br>13.8                            | 14                 | 12:                | 14                   | 14<br>14             |          | 44                       | 14.8<br>14.8                                                   |
|              | ۳          | A2.                 |                                                | oxysporum                 | tanscr<br>ter<br>li; M.<br>lloide<br>lloide<br>R.<br>slla e                                                                                                                                             | cific              | ) (fir     |           | standard;                  |            |                                          |            |                    |                    |                                          |                    |                                          |                    |                    |                      |                    |                    |                   |                                         |                    |                    |                      |                      |          |                          | 82.2<br>82.2                                                   |
| 98WO-US08926 |            |                     | Location, 1 /*tag= / /note= "                  | um.                       | scribed spacer terreus; A. ni M. racemosus; ides f. circin R. stolonifer a elegans; Pse otatum; Sporot                                                                                                  | probe targeted     | rst entry) |           | d; DNA;                    |            | 17847<br>17847                           | 13046      | 12666              | 10811              | 9423<br>9717                             | 7560               | 6723                                     | 6642               | 5679               | 5167<br>5167         | 2701               | 1215               | 886<br>1076       | 701<br>882                              | 20629              | 3361               | 3347<br>3347         | 3345<br>3346         | 3208     | 939<br>2815              | 4491<br>5864<br>15428                                          |
| 8926.        |            |                     | n/Qua<br>a<br>"labe                            |                           | pacer 2<br>A. nidu<br>osus; M<br>ircinel<br>nifer;<br>; Pseud<br>porothr                                                                                                                                | carge              | (Y)        |           | 18 BP                      |            |                                          |            |                    |                    |                                          |                    |                                          |                    |                    |                      |                    |                    |                   |                                         |                    |                    |                      |                      |          |                          | 223                                                            |
|              |            |                     | /Qualifiers<br>a<br>labelled with digoxigenin• |                           | ; ITS2; prolans; Fusar<br>lans; Fusar<br>. plumbeus;<br>loides; Rhi<br>loides; Rhi<br>allesheria<br>allesheria                                                                                          | ted to the interna |            |           | <b>.</b>                   | ALIGNMENTS | AAS57188<br>ABL27090                     | AAS31516   | AAV52270           | AAV59091           | AAF55577                                 | AAC85599           | AAC85592                                 | AAC79621           | AAC85602           | AAS57189<br>ABL27091 | ABL34324           | AAF13122           | AAH98792          | AAF28160<br>AAC33415                    | ABL09022           | AAQ71484           | AAQ71486<br>AAQ71480 | AAQ71485<br>AAQ71483 | AAQ71481 | AAH53833<br>AAH54455     | ABL02050<br>ABL03754<br>ABL02692                               |
|              |            |                     | enin"                                          |                           | bbe; Aspergillus flavus; ium solani; F. moniliforme; M. indicus; A. fumigatus; zopus oryzae; R. microsporus; pusillus; Absidia corymbifera; boydii; Scedosporium apiospermum; ; filamentous fungus; ss. | l transc           |            |           |                            |            | DNA encoding Droso<br>Drosophila melanog | an DNA for | Streptococcus pneu | Potato pollen cell | Nucleotide sequenc<br>Photorhabdus lumin | Plasmid p3E1.2hs/o | Plasmid p3E1.2 con<br>phsp70/opd plasmid | Virulence gene #41 | Helper plasmid 3E1 | cDNA encoding bros   | Human immune syste | Aspergillus oryzae | Human EST-derived | Rice centeromeric<br>Arabidopsis thalia | Drosophila melanog | omp2 locus of Bruc |                      | Tocus                | locus of | pidermidis<br>pidermidis | Drosophila melanog<br>Drosophila melanog<br>Drosophila melanog |

```
RESULT
AAA72783
 ş
 PTTTXRXII
 밁
 Query Match
Best Local
 Matches
 Probes AAV83677-708 are derived from the internal transcribed spacer 2 (ITS2) region of various filamentous fungi (see AAV70845-73). The probes are species-specific, and can be used for identifying a species selected from Aspergillus flavus, A. fumigatus, A. niger, A. terreus, A. nidulans, Fusarium solani, F. moniliforme, Mucor rouxii, M. racemosus, M. plumbeus, M. indicus, M. circinilloides f. circinelloides, Rhizopus oryzae, R. microsporus, R. circinans, R. stolonifer, Rhizomucor pusillus, Absidia corymbifera, Cunninghamella elegans, Pseudallesheria boydii (teleomorph of Scedosporium apiospermum), Penicillium notatum, or Sporothrix schenkii. The probes can be used for differentiating important fingal species from each other and from other medically
 New nucleic acid probes for filamentous fungi - for detecting e.g. Aspergillus, Fusarium, Mucor, Rhizopus, Rhizomucor, Absidia, Cunninghamella, Pseudoallescheria boydii, Penicillium and Sporothrix
 Black
field
 Aidorevich L,
 02-MAY-1997;
 Example 1;
Nucleic acid based assay and kit for detection of Alternaria contamination in food products involves analysing the sample of product for nucleic acid sequences unique to Alternaria -
 24-JAN-2000; 2000WO-US01466
 AAA72783 standard;
 Sequence 18
 WO200046397-A1
 Fusarium oxysporum
 5.8s rRNA gene sequence
 13-DEC-2000
 AAA72783;
 10-AUG-2000
 important fungi.
 1 cgttaattcgcgttcctc 18
 Ν
 cgttaattcgcgttcctc
) US
 spot disease; brown spot disease; fungi; fruit vegetable;
crop; Alternaria; 5.8s rRNA; detection; ds.
 l Similarity
18; Conser
 TECHNION RES & DEV FOUND KASHI Y.
 Zur G,
 Page 22;
 DEPT HEALTH & HUMAN SERVICES
 ₽P;
 Conservative
 (first entry)
 Cho1
 97US-0045400
 99US-0241427
 N
 Α,
 Sharf
 DNA;
 JS,
 45pp; English.
 6 C;
 100.0%;
 ₽,
 382
 Morrison CJ, Reiss
 w
 ဂ္
 ВP
 0;
 Hallerman
 Score 18;
Pred. No.
 7
 Mismatches
 Τ,
 0 other;
 Ν
 DB
 6;
 20;
 Ħ
 0,
 Length 18
 0;
 Gaps
 0;
```

```
RESULT
AASA41/
ID AASA
XX AASA
AC AASA
XX AASA
 Ş
 밁
 Query Match
Best Local
 Matches
 21-MAR-2000;
23-MAY-2000;
26-MAY-2000;
23-OCT-2000;
23-OCY-2000;
27-NOV-2000;
22-DEC-2000;
 genus Alternaria are ubiquitous saprophytes and are economically important pathogens affecting a wide range of plants. Alternaria are the causative agents of black or brown spot disease in many fruits, vegetables and field crops. The method is used for the detection of Alternaria contamination in food products. The present sequence represents the Fusarium oxysporum 5.8s rRNA gene, used in examples
 The invention relates to a nucleic acid based method for the detection of Alternaria contamination in a food product. The method involves obtaining and analysing a food product sample for a nucleic acid sequence unique to Alternaria. Detectable levels of the nucleic acid sequence can be used as an indication of Alternaria contamination. Fungi from the
The invention relates to antisense inhibitors of genes essential to prokaryotic cellular proliferation, their use in identifying the genes, their use in the discovery of novel antibiotics, the essential genes themselves and the encoded proteins. The prokaryotes used are
 Sequence
 Examples; Fig 1; 47pp; English
 Antisense; ss; prokaryotic cellular proliferation; antibiotic; antibacterial; drug design.
 Enterococcus faecalis cellular proliferation inhibitory sequence #989
 13-FEB-2002
 AAS48419;
 AAS48419 standard;
 Claim
 New polynucleotides for the identification and development antibiotics, comprise sequences of antisense nucleic acids
 Haselbeck R,
Yamamoto RT,
 21-MAR-2001;
 27-SEP-2001.
 W0200170955-A2
 Enterococcus faecalis.
 illustrating the invention.
 WPI; 2001-611495/70
 (ELIT-)
 287
 Local Similarity
nes 18; Conserv
 1 cgttaattcgcgttcctc
 w
 cgttaattcgcgttcctc
 ELITRA PHARM INC
 382
 2000US-206848P.
2000US-207727P.
2000US-242578P.
2000US-253625P.
2000US-257931P.
2001US-269308P.
 Conservative
 BP;
 (first entry)
 ID No 996; 511pp; English.
 2000US-191078P
 2001WO-US09180
 Ohlsen
Xu HH;
 101
 DNA;
 100.0%;
 A; 99 C;
 ΚĽ,
 304
 18
 Zyskind
 0;
 ВP
 Pred. No.
 87
 Score 18;
 Mismatches
 <u>ດ</u>
 'n,
 95
 7
 Wall
 2.7;
 DΒ
 0 other;
 21;
 Ó
 0
 Trawick
 Length 382;
 Indels
 'n,
 ٠of
 0;
 Carr
 Gaps
 ភូ
 0
```

```
RESULT
AAS47978/
 353555555555555555555555555
 밁
 á
 Matches
 Query Match
Best Local
 21-MAR-2000;
23-MAY-2000;
26-MAY-2000;
23-OCT-2000;
 Escherichia coli, Staphylococcus aureus, Salmonella typhi, Klebsiella pneumoniae, Pseudomonas aeruginosa and Enterococcus faecalis. The invention is also useful for the identification of potential new targets for antibiotic development. The antisense nucleic acids can also be used to identify proteins used in proliferation, to express these proteins, and to obtain antibodies capable of binding to the expressed proteins. The proteins can be used to screen compounds in rational drug discovery programmes. The antisense nucleic acid sequence is also useful to screen for homologous nucleic acids which are required for cell proliferation in a wide variety of organisms. The present sequence is an antisense oligonucleotide of the invention.

Note: The sequence data for this patent did not form part
The invention relates to antisense inhibitors of genes essential to prokaryotic cellular proliferation, their use in identifying the genes, their use in the discovery of novel antibiotics, the essential genes themselves and the encoded proteins. The prokaryotes used are
 antibiotics,
 Antisense: ss; prokaryotic cellular proliferation; antibiotic; antibacterial; drug design.
 AAS47978 standard; DNA;
 21-MAR-2001; 2001WO-US09180
 27-SEP-2001
 WO200170955-A2
 Enterococcus faecalis
 Enterococcus faecalis cellular proliferation inhibitory sequence #548
 13-FEB-2002
 of the printed specification, but was format directly from WIPO at
 Haselbeck R,
Yamamoto RT,
 Sequence 128 BP; 42 A; 31 C;
 (ELIT-) ELITRA PHARM INC
 .834-91
 27-NOV-2000;
 118
 ftp.wipo.int/pub/published_pct_sequences.
 Local Similarity
 2 gttaattcgcgttcc 16
 polynucleotides for the identification and development
 GTTAATTCGCGTTCC 104
 2001-611495/70
 2000US-191078P.
2000US-206848P.
2000US-207727P.
2000US-242578P.
2000US-253625P.
2000US-257931P.
 Conservative
 (first entry)
 ID No
 comprise sequences of antisense
 Ohlsen
Xu HH;
 2001US-269308P
 83.3%;
 KL,
 511pp; English.
 Zyskind JW,
 0;
 Score 15;
Pred. No.
 22 G; 33 T; 0 other;
 Mismatches
 obtained
 Wall D,
 DB 23;
 1.le+02;
 nucleic
 'n
 Length 128;
 Trawick JD,
 Indels
 acids
 of
 0;
 Carr GJ
 0
```

```
RESULT ANALIZED ANALI
 9999999999999998%
99999999999999
 밁
 Ş
 Query
Best L
 Matches
 14-NOV-1997;
06-MAY-1997;
16-MAY-1997;
 to identify proteins used in proliferation, to express these proteins, and to obtain antibodies capable of binding to the expressed proteins. The proteins can be used to screen compounds in rational drug discovery programmes. The antisense nucleic acid sequence is also useful to screen for homologous nucleic acids which are required for cell proliferation in a wide variety of organisms. The present sequence is an antisense oligonucleotide of the invention.

Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at
 982 nucleotide sequences isolated from the Enterococcus faecalis genome AAX12938 to AAX13919 represent these nucleotide sequences which are primary nucleotide sequences, also known as contigs. The computer-based
 Claim 1;
 New isolated Enterococcus faecalis polynucleotides and polypeptides used to develop products for the detection of Enterococcus and for use in vaccines for prevention or attenuation of Enterococcus
 04-MAY-1998;
 Enterococcus faecalis; contig; detection; Enterocovoccine; attenuation; computer readable medium; ds
 19-MAR-1999
 AAX13271 standard;
 Sequence 250 BP;
 WPI; 1999-045171/04.
 12-NOV-1998
 WO9850555-A2
 Enterococcus
 Enterococcus faecalis genome contig SEQ ID NO:334.
 ftp.wipo.int/pub/published_pct_sequences
 invention is also useful for the identification of potential new targets for antibiotic development. The antisense nucleic acids can also be used
 Escherichia coli, Staphylococcus aureus, Salmonella typhi, Klebsiella pneumoniae, Pseudomonas aeruginosa and Enterococcus faecalis. The
 (HUMA-) HUMAN
 computer readable medium has been developed which has recorded on it
 54 GTTAATTCGCGTTCC
 2 gttaattcgcgttcc
 Local
 S
 SC,
 15; Conserv
 Page 1436-1441;
 Dillon PJ,
 Conservative
 (first entry)
 GENOME SCI INC
 97US-0046655
 97US-0066009
97US-0044031
 58680Sn-0M86
 75 A; 53
 DNA:
 83.3%;
 40
 16
 Kunsch CA;
 9212
 2084pp; English
 Ç
 <u>.</u>.
 Score 15;
Pred. No.
 47
 detection; Enterococcal infection;
 <u>ن</u>
 Mismatches
 75 T; 0
 DB 23; I
 other;
 Length 250;
 Indels
 0
 and for
 Gaps
 'n
 0
```

system can identify fragments of the Enterococcus faecalis genome with commercial importance. The products can be used to detect the presence of Enterococcus faecalis in samples. They can also be used for

```
RESULT
AAS05503
밁
 á
 Query Match
Best Local :
 Matches
 The sequences shown in AASO5401-AASO5661 represent DNA with mammalian vestibular system-modulating activity. The DNA sequences can be used in method whereby a first and second strain of an invertebrate is obtained and both are subjected to conditions in which the strains exhibit different geotactic behaviour. Genes that are differentially expressed the first strain relative to the second strain are then identified. Mammalian genes having substantially the same nucleic acid sequence as these modulate the mammalian vestibular system. Compounds containing these genes are used to decrease the symptoms of graviperceptive disorders such as motion sickness, vertigo, labyrinthitis, Meniare's disease, acoustic neurona, multiple sclerosis, syphilis, trauma,
Sequence 650 BP; 182 A; 181 C;
 WPI;
 Mammalian vestibular system; invertebrate; geotactic behaviour; vertigo; graviperceptive disorder; motion sickness; labyrinthitis; syphilis; ds; Menlere's disease; acoustic neuroma; multiple sclerosis; epilepsy; trauma; infection of the middle ear; ototoxic agent exposure.
 4989
 diagnosing Enterococcal infection in an animal and monitoring progression of disease, and for identifying agents which can be used to modulate the growth or pathogenicity of Enterococcus faecalis, or another related organism, in vivo or in vitro. In particular the polypeptides encoded by the Enterococcus faecalis nucleotide sequences can be used in vaccines to prevent or attenuate an Enterococcal
 New isolated nucleic acid having mammalian vestibular system-modulating activity useful in the treatment of disorders such as motion sickness
 Claim
 02-DEC-1999;
 01-DEC-2000; 2000WO-US32639
 07-JUN-2001
 WO200140519-A2
 Drosophila melanogaster
 Mammalian vestibular system geotactic behaviour modulator
 07-SEP-2001
 AAS05503;
 (NEUR-) NEUROSCIENCES
 26-SEP-2000;
 AAS05503 standard; DNA; 650 BP
 Sequence 9212 BP; 3045 A; 1564 C;
 infection
 Local
 N
 σ
 gttaattcgcgttcc 16
 2001-356159/37.
 gttaattcgcgttcc 5003
 59;
 1 Similarity
15; Conser
 Page 126; 179pp; English
 2000US-0669751
 Conservative
 99US-0168579
 entry)
 83.3%;
 RES FOUND
 ear, exposure
 0
 Score 15;
Pred. No.
 167
 Mismatches
 2061
 <u>ڊ</u>
 120 T; 0 other;
 to ototoxic
 <u>.</u>
 DB 20; I
1.2e+02;
 2529 T;
 0;
 Length 9212;
 agents
 13 other;
 Indels
 gene
 0
 epilepsy
 be used to
 obtained,
 Gaps
 'n
 in
 ø
 0
```

```
밁
 δÃ
 밁
 Ş
 Query Match
Best Local S
Matches 16
 Query Match
Best Local S
Matches 16
 (ABB57737-ABB72072).

The sequence data for this patent did not form sequence data for this patent did not form form the sequence.
 capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL01840-ABL16175) and the encoded proteins
 Sequence
 Claim 1;
 New isolated nucleic a
genes from Drosophila
 23-MAR-2000;
11-JUL-2000;
 Drosophila melanogaster expressed
 The invention relates to an isolated nucleic acid detection reagent
 Venter
 23-MAR-2001; 2001WO-US09231
 WO200171042-A2
 Drosophila melanogaster
 pharmaceutical;
 Drosophila;
 26-MAR-2002 (first entry)
 ABL12625
 ABL12625 standard; cDNA; 1200
 interactions
 75
 69
 1 cgttaattcgcgttcctc
 1 cgttaattcgcgttcctc 18
 ftp.wipo.int/pub/published_pct_sequences.
 7
cgttcatacgcgttcctc
 2001-656860/75
 cgttcatacgcgttcctc
 'n,
 16; Conserv
 l Similarity
16; Conserv
 PE CORP NY
 1200 BP; 335 A; 319 C;
 SEQ ID NO 32357;
 Adams M,
 Conservative
 developmental biology; cell signalling; insecticide;
 Conservative
 2000US-0614150
 2000US-191637P
 gene;
 acid
a and
 88
 82.2%;
88.9%;
 Ľ
 18
 .98
 92
 86
 PWD,
 21pp + Sequence Listing; English
 detection reagent for detecting for elucidating cell signalling
 0;
 Score
 Score 14.8;
Pred. No. 1
 ВP
 Myers
 Mismatches
 318 G;
 Mismatches
 polynucleotide SEQ ID NO 32357
 14.8;
 EΨ
 228 T; 0
 ..4e+02;
 .5e+02
 DВ
 DB 22;
 23;
 format
 part of the printed format directly from
 other;
 Indels
 Length
 Length
 Indels
 650;
 1000 or more
and cell-cell
 0
 0;
 Gaps
 Gaps
 WIPO
 is
 0;
 0
```

RESULT 8 AAS52883/c

```
В
 ş
 RESULT
 The invention relates to antisense inhibitors of genes essential to CC prokaryotic cellular proliferation, their use in identifying the CC genes, their use in the discovery of novel antibiotics, the essential CC genes themselves and the encoded proteins. The prokaryotes used are CC Escherichia coli, Staphylococcus aureus, Salmonella typhi, Klebsiella CC pneumonlae, Pseudomonas aeruginosa and Enterococcus faecalis. The CC invention is also useful for the identification of potential new targets CC for antibiotic development. The antisense nucleic acids can also be used CC to identify proteins used in proliferation, to express these proteins, CC and to obtain antibodies capable of binding to the expressed proteins. CC and to obtain antibodies capable of binding to the expressed proteins. CC reporteins can be used to screen compounds in rational drug discovery programmes. The antisense nucleic acid sequence is also useful to screen CC or homologous nucleic acids which are required for cell proliferation in CC essential prokaryotic cellular proliferation protein.

CC Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic
 Query Match
Best Local S
Matches 16
 1644 CGTTAATTCCCGTTCCGC 1627
 of the printed specification, but was format directly from WIPO at
 Sequence
 Claim 27; Seq ID No 6520; 511pp; English.
 New polynucleotides for the identification and development antibiotics, comprise sequences of antisense nucleic acids
 13-FEB-2002
 WPI; 2001-611495/70.
P-PSDB; AAU35024.
 Haselbeck R,
 26-MAY-2000;
23-OCT-2000;
 21-MAR-2001; 2001WO-US09180
 27-SEP-2001
 WO200170955-A2
 Enterococcus faecalis
 Antisense; antibiotic;
 Enterococcus
 AAS52883;
 ttp.wipo.int/pub/published_pct_sequences
 Yamamoto
 16-FEB
 27 - NOV - 2000;
 23-MAY-2000;
 AAS52883 standard;
 (ELIT-)
 Local Similarity les 16; Conserv
 cgttaattcgcgttcctc 18
 ELITRA PHARM
 3138 BP;
 ds; prokaryotic cellular proliferation gene;
; antibacterial; drug design.
 ; 2000US-253625P.
; 2000US-257931P.
; 2001US-269308P.
 Conservative
 2000US-206848P.
2000US-207727P.
2000US-242578P.
 faecalis DNA for cellular proliferation protein #311.
 (first entry)
 2000US-191078P
 č
 Ohlsen KL,
 1239 A;
 DNA;
 82.2%;
 INC
 3138
 554 C; 631 G; 714 T;
 Zyskind JW,
 Score 14.8; DB 2:
Pred. No. 1.5e+02
 Mismatches
 Wall D,
 DB 23;
 0 other;
 Trawick JD,
 Length 3138;
 Indels
 · of
 0;
 Carr GJ;
 Gaps
 0
ABL02050
 밁
 Q
 ABL12624/c
ID ABL12624 standard; cDNA; 3257
 RESULT 10
 Best Loc
Matches
 Query Match
 useful in developmental biology and in elucidating cell signalling cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL01840-ABL18175) and the encoded proteins (ABB57737-ABB72072).
 2183 CGTTCATACGCGTTCCTC
 pharmaceutical; gene; ss.
 Drosophila; developmental biology; cell signalling; insecticide
 The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from at ftp.wipo.int/pub/published_pct_sequences.
 Drosophila
 26-MAR-2002
 ABL02050;
 ABL02050 standard; cDNA;
 Sequence 3257 BP;
 Claim 1; SEQ ID NO 32354; 21pp + Sequence Listing; English
 New isolated nucleic acid genes from Drosophila and
 WPI; 2001-656860/75.
 Venter JC,
 23-MAR-2000;
11-JUL-2000;
 23-MAR-2001; 2001WO-US09231
 27-SEP-2001
 WO200171042-A2
 Drosophila melanogaster.
 pharmaceutical;
 Drosophila;
 Drosophila melanogaster expressed
 ABL12624;
 interactions
 (PEKE) PE CORP NY.
 26-MAR-2002
 Local
 1 cgttaattcgcgttcctc 18
 ftp.wipo.int/pub/published_pct_sequences.
 16;
 Similarity
 melanogaster expressed polynucleotide SEQ ID NO
 Adams M,
 Conservative
 developmental
 (first entry)
 2000US-191637P
2000US-0614150
 (first entry)
 gene; ss.
 796 A; 793 C; 717 G; 951 T; 0 other;
 82.2%;
 L
 2166
 4491
 PWD,
 detection reagent for detecting 1000 or more for elucidating cell signalling and cell-cel
 biology; cell signalling; insecticide;
 0
 Score 14.8; DB 23
Pred. No. 1.5e+02;
 ВP
 ВP
 Myers
 Mismatches
 polynucleotide SEQ ID NO 32354
 E
```

23;

Length 3257; Indels

0;

Gaps

0

632.

format directly from WIPO

reagent invention

is

cell-cell

```
á
 ABL03754
 В
 RESULT
 Matches
 Query Match
Best Local
 23-MAR-2000;
11-JUL-2000;
 Drosophila melanogaster
 (PEKE) PE CORP NY
 23-MAR-2001; 2001WO-US09231
 27-SEP-2001
 W0200171042-A2
 Drosophila;
 Drosophila melanogaster expressed
 pharmaceutical;
 26-MAR-2002
 ABL03754;
 ABL03754 standard;
 The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invent useful in developmental biology and in elucidating cell signalling cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL16176-ABL30511).
 Sequence 4491 BP;
 The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
 Claim 1; SEQ ID NO 632; 21pp + Sequence Listing; English
 760
 WPI;
 interactions
 New isolated nucleic acid
genes from Drosophila and
 Venter JC,
 (PEKE) PE CORP NY.
 23-MAR-2000;
11-JUL-2000;
 23-MAR-2001;
 27-SEP-2001
 WO200171042-A2
 Drosophila melanogaster.
 ABB57737-ABB72072)
 11
 1 cgttaattcgcgttcctc 18
|||||||||| || |||||
60 cgttaattctcggtcctc 777
 Local Similarity
 ftp.wipo.int/pub/published_pct_sequences.
 2001-656860/75.
DB; ABB57947.
 16;
 developmental biology; cell signalling; insecticide
 2000US-191637P
2000US-0614150
 Conservative
 Adams M,
 (first entry)
 2000US-191637P
2000US-0614150
 2001WO-US09231
 gene;
 1161 A; 1000 C;
 cDNA; 5864
 82.2%;
88.9%;
 88
 Ľ
 777
 PWD,
 detection reagent for detecting 1000 or more for elucidating cell signalling and cell-cell
 0;
 Score
Pred.
 ВP
 Myers
 Mismatches
 polynucleotide SEQ ID NO 5744
 969 G;
 14.8;
No. 1
 E
 .5e+02;
 1361
 DВ
 23;
 2
 T;
 0
 Length 4491;
 Indels
 other;
 0;
 reagent
 invention
 Gaps
 and
 is
 0
```

```
밁
 Ş
 ABL02692
 RESULT
 Matches
 Query Match
 WPI; 2001-656860/75.
P-PSDB; ABB58589.
 New isolated nucleic a
genes from Drosophila
 23-MAR-2000;
11-JUL-2000;
 interactions
 (PEKE) PE
 23-MAR-2001; 2001WO-US09231
 Drosophila melanogaster expressed
 The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL01840-ABL16175) and the encoded proteins (ABB57737-ABB72072).
 27-SEP-2001.
 WO200171042-A2
 Drosophila melanogaster.
 pharmaceutical;
 Drosophila; developmental
 26-MAR-2002
 ABL02692 standard;
 4942 cgttaattctcggtcctc 4959
 Sequence
 The sequence data for this patent did not form specification, but was obtained in electronic i at ftp.wipo.int/pub/published_pct_sequences.
 ABL02692
 Claim 1; SEQ ID NO 5744;
 New isolated nucleic a
 Venter
 Local
 12
 1 cgttaattcgcgttcctc 18
 2001-656860,75
 úC,
 16; Conservative
 JC,
 5864 BP;
 CORP
 Adams M,
 2000US-191637P
2000US-0614150
 Adams M,
 (first entry)
 gene;
 1530 A; 1320 C; 1262 G; 1752 T;
 CDNA; 15428
 acid
a and
 82.2%;
08.9%;
 acid
a and
 ፫
 Li
 PWD,
 detection reagent for detecting 1000 or more for elucidating cell signalling and cell-cel
 21pp + Sequence Listing;
 biology; cell signalling; insecticide;
 PWD,
 detection reagent for for elucidating cell s
 0;
 Score 14.8; DB 23;
Pred. No. 1.5e+02;
0; Mismatches 2;
 ВP
 Myers
 Myers
 polynucleotide SEQ
 E
 ŒΨ
 n part of the printed format directly from
 r detecting signalling
 0 other;
 Length 5864;
 English.
 Indels
 ID NO 2558
 1000
and c
 0
 cell-cell
 cell-cell
 Gaps
 WIPO
 ŝ
 0
```

Claim 1; SEQ

IJ

NO

2558; 21pp + Sequence Listing; English

3333333333333×8

밁 á

```
RESULT 13
AAH53833/c
 Matches
 Query Match
Best Local
 AAH52304 to AAH53970 represent nucleic acids (I) encoding polypeptides (II), given in AAG81454 to AAG83120, from Staphylococcus epidermidis. (I) and (II) can have antibacterial activity and therefore can be used in vaccination. The nucleic acids (I) may be used to produce the s. epidermidis polypeptides (II) via the production of vectors containing them which are used to produce hosts cells which express the polypeptides. The polypeptides (II) (and/or nucleic acids) may then be used to vaccinate subjects and to raise antibodies against the bacteria. The polypeptides may also be used to assay for other inhibitors of their activity and therefore identify compounds that may be used for the treatment of S. epidermidis infections, e.g. endocarditis. AAH53971 to AAH55090 represent specifically claimed S. epidermidis genomic DNA polynucleotide sequences from the present invention. AAH55091 to
 1 cgttaattcgcgttcctc 18
||||||||| ||||||||
8063 cgttaattcactttcctc 8080
 The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL01840-ABL16175) and the encoded proteins (ABB57737-ABB72072).
 Claim
 Nucleic
 WPI; 2001-316495/33
 Kimmerly WJ
 09-NOV-1999;
 09-NOV-2000; 2000WO-US30782
 17-MAY-2001
 WO200134809-A2
 Staphylococcus
 vaccination; endocarditis;
 Staphylococcus epidermidis SR1 strain; infection; diagnosis;
 S. epidermidis open reading frame nucleotide sequence SEQ ID NO: 3059
 03-SEP-2001
 AAH53833;
 AAH53833
 The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from at ftp.wipo.int/pub/published_pct_sequences.
 (GLAX) GLAXO
 8
 c acids encoding polypeptides from Staphylococcus epidermidis, for vaccinating against infections, e.g. endocarditis -
 l Similarity
16; Conserv
 AAG82983
 Page 805; 2188pp; English.
 represent oligonucleotide
 standard;
 15428 BP;
 Conservative
 (first entry)
 99US-0164258
 epidermidis
 DNA;
 4834 A; 2815 C;
 82.2%;
88.9%;
 939
 ds.
 ΒP
 0
 Score 14.8;
Pred. No. 1
 Mismatches
sequences and
 2869 G; 4910 T; 0 other
 .5e+02
 В
 23;
primers which
 Indels
 Length 15428;
 0;
 WIPO
 ŝ
 0,
```

```
RESULT 1
AAH54455
ID AAH9
 ð
 888888
 В
 (II), given in AAG81454 to AAG83120, from Staphylococcus epidermidis.

(C (I) and (II) can have antibacterial activity and therefore can be used in vaccination. The nucleic acids (I) may be used to produce the CC s. epidermidis polypeptides (II) via the production of vectors containing them which are used to produce hosts cells which express the polypeptides. The polypeptides (II) (and/or nucleic acids) may then be used to vaccinate subjects and to raise antibodies against the bacteria. The polypeptides may also be used to assay for other inhibitors of their activity and therefore identify compounds that may be used for the treatment of S. epidermidis infections, e.g. endocarditis. AAH53971 to AAH55090 represent specifically claimed S. epidermidis genomic DNA AH55090 represent oligonucleotide sequences and primers which are used in the exemplification of the present invention.

N.B. The present invention specifically claims all the polynucleotide sequences given in the sequence listing of the present specification.
 Query Match
Best Local
 Matches
however the sequence listing only goes up to SEQ ID NO:4454 so even though sequences are given in the disclosure for SEQ ID NO:4465 to 44.
 Nucleic acids encoding useful for vaccinating
 S. epidermidis genomic polynucleotide sequence SEQ ID NO:3819.
 AAH52304 to AAH53970 represent nucleic acids (I) encoding polypeptides (II), given in AAG81454 to AAG83120, from Staphylococcus epidermidis.
 Claim 8;
 WPI; 2001-316495/33
 09-NOV-1999;
 09-NOV-2000;
 17-MAY-2001.
 Staphylococcus epidermidis
 vaccination;
 Staphylococcus epidermidis SR1
 03-SEP-2001
 AAH54455;
 in the exemplification of the present invention.

N.B. The present invention specifically claims all the polynucleotide sequences given in the sequence listing of the present specification, however the sequence listing only goes up to SEQ ID NO:4454 so even though sequences are given in the disclosure for SEQ ID NO:4465 to 447 no sequences are present for SEQ ID NO:4455 to 4464.
 Kimmerly WJ;
 WO200134809-A2
 AAH54455 standard;
 Sequence 939
 (GLAX) GLAXO
 616 TTAATTCACGTTCCTC
 Local Similarity
les 15; Conserv
 14
 3 ttaattcgcgttcctc 18
 Page 1457-1458; 2188pp; English
 Conservative
 2000WO-US30782
 endocarditis;
 (first entry)
 BP; 322 A; 122
 GROUP LTD
 99US-0164258
 DNA;
 93
 601
 polypeptides from Staphylococcus epidermidis, against infections, e.g. endocarditis -
 . 88;
 ds.
 ü
 Score 14.4; D
Pred. No. 2.4e
0; Mismatches
 strain;
 183 G;
 312 T; 0 other;
 infection; diagnosis;
 .4e+02
 DB
 Indels
 Length
 939;
 0
 Gaps
 4472
 4472,
 0
```

```
RESULT 15
AAAO71481/C
ID AAO71481;
XX
AC AAQ71481;
XX
DE Omp2 locus of Brucel
XX
Omp2; consensus; Bru
KW Omp2; consensus; Bru
KW Omp2; consensus; Bru
KW Diovar; cattle; dise
XX
OMP2 locus of Brucel
XX
OMP2 locus of Brucel
XX
OMP2 locus of Brucel
XX
OMP2; consensus; Bru
KW Diovar; cattle; dise
XX
OMP2; consensus; Bru
XX
OMP1; 1994-1990; 90US-
XX
OMP1; 1994-302203/37
XX
OMP1; 1994-302203/3
Search completed: August 21, 2002, 22:22:47 Job time: 5787 sec
 ş
 В
 á
 В
 δ×
 Ouery Match
Best Local Similarity
Matches 14; Conserv
 Query Match
Best Local S
Matches 15
 2 gttaattcgcgttc 15
||||||||||||||
1488 GTTAATTCGCGTTC 1475
 Rapid detection of Brucella may be achieved by amplifying the omp2 gene locus of Brucella (which shows genetic variation correlating with established species designations) and hybridising the amplified sequence with a panel of DNA probes to identify a species of bivoar of Brucella. The amplified sequence is preferably a sequence between nucleotides 2470 and 3346 of the consensus sequence described in AAQ71479. The method is used for the detection of Brucella infection in animals, particularly humans and cattle.
 Sequence 3208 BP; 761 A; 864 C;
 Disclosure; Columns 17-21; 50pp; English.
 Identification of Brucella species or biovars - by amplification of the Brucella omp2 gene locus and hybridisation with DNA probes
 WPI; 1994-302203/37.
 (TEXA) UNIV TEXAS A & M.
 omp2; consensus; Brucella; identification; diagnosis; infection;
biovar; cattle; disease; ss.
 Brucella abortus biovar 1 (S2308).
 omp2 locus of Brucella abortus biovar 1 (S2308).
 01-MAY-1995 (first entry)
 Sequence 2815 BP;
 3 ttaattcgcgttcctc 18
|||||||| ||||||||
792 ttaattcacgttcctc 807
 al Similarity 93.0
15; Conservative
 Ficht TA;
 Conservative
 90US-0527017.
92US-0972791.
 90US-0527017.
 77.8%; Score 14; DB 15; 100.0%; Pred. No. 4e+02;
 958 A; 518 C; 315 G; 1024 T; 0 other;
 cDNA; 3208 BP.
 80.0%;
93.8%;
 0:
 0
 Score 14.4; DB 22;
Pred. No. 2.4e+02;
0; Mismatches 1;
 Mismatches
 868 G;
 715
 T; 0 other;
 0;
 Length 3208;
 Indels
 Indels
 Length
 2815;
 0;
 0;
 Gaps
 Gaps
 0
 0
```

Title: Perioct score:

OM nucleic

٠

9

Scoring table: Sequence:

Sequence Sequence Sequence Sequence Sequence Sequence Sequence

e 5, Appli
e 3, Appli
e 3, Appli
e 3, Appli
e 1, Appli
e 6, Appli
e 6, Appli
e 17, Appli
e 21, Appli

Sequence Sequence Sequence

Sequence Sequence Sequence Sequence Sequence Sequence Sequence

```
Minimum DB seq length: 0
Maximum DB seq length: 2000000000
 Total number of hits satisfying chosen parameters:
 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
 nucleic search, using sw model
 Match Length
 Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
 Issued_Patents_NA: *
 IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
 383533 seqs, 122816752 residues
 US-10-046-955-50
18
 August 21, 2002, 22:12:29;
 GenCore version 4.5
Copyright (c) 1993 - 2000 Comp
 cgttaattcgcgttcctc
 /cgn2_6/ptodata/1/ina/5A_COMB.seq:*
/cgn2_6/ptodata/1/ina/5B_COMB.seq:*
/cgn2_6/ptodata/1/ina/6A_COMB.seq:*
/cgn2_6/ptodata/1/ina/6B_COMB.seq:*
/cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
 /cgn2_6/ptodata/1/ina/backfiles1.seq:*
 3346
3346
3346
3347
3347
3347
3343
5672
3772
3376
30717
3376
30717
3346
669
1669
1669
1669
1669
1689
1797
1377
 DB
 US-07-972-791-5
US-07-972-791-6
US-07-972-791-6
US-07-972-791-6
US-08-844-274-10
US-08-844-274-14
US-08-844-274-14
US-08-844-274-14
US-08-844-274-291-1
US-09-131-645-1
US-09-131-183-1
US-09-385-982-1
US-09-385-982-1
US-09-385-982-1
US-09-385-982-1
US-09-385-982-1
US-09-385-982-1
US-09-385-982-1
 US-07-972-791-3
US-07-972-791-7
 H
 SUMMARIES
 Search time 138.45 Seconds (without alignments) 31.935 Million cell updates/sec
 Compugen Ltd
 Sequence 8, Appli
Sequence 6, Appli
Sequence 10, Appl
Sequence 11, Appl
Sequence 14, Appl
Sequence 14, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 27, Appli
Sequence 28, Appli
Sequence 28, Appli
Sequence 28, Appli
Sequence 28, Appli
Sequence 21, Appli
Sequence 131, Appli
Sequence 131, Appli
 Sequence
Sequence
Sequence
 Description
 Sequence
 Sequence
 Appli
Appli
Appli
Appli
Appli
 US-07-972-791-3
 RESULT 1
US-07-972-791-3/c
Query Match
Best Local Similarity 100.
 TELEFAX: 713-850-0165
TELEX: 792026
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 3208 base pairs
TYPE: NUCLEIC ACID
STRANDEDNESS: single
TOPOLOGY: linear
 0 0 0 0 0 0 0 0 0 0 0
 00000
 COMPUTER: IBM PC COMPATIBLE PARTING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PATENTIN Release #1.0, V CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/972,791 FILLING DATE: 19921106 CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION: MAME: Kettelberger, Denise M. TELECHAMUNICATION 1910-1910: TELEPAN: 713-850-0909 TELEFAX: 713-850-0165
 Sequence 3, Application US/07972791 Patent No. 5348857
 GENERAL INFORMATION:
APPLICANT: Ficht, Thomas A.
APPLICANT: Sowa, Blair A.
APPLICANT: Adams, L. Gary
TITLE OF INVENTION: NOVEL PROBES AND METHOD FOR IDENTIFYING
TITLE OF INVENTION: SPECIES AND BIOVARS OF BRUCELLA
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
 MOLECULE TYPE: ci
ORIGINAL SOURCE:
ORGANISM: Bruce
 44444336543313328
444433654331033
 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
 STREET: 1177 WE CITY: Houston STATE: Texas COUNTRY: USA ZIP: 77027
 ORGANISM: Brucella abortus STRAIN: biovar 1 (S2308)
 ADDRESSEE: PRAVEL, GAMBRELL, HEWITT, & KRIEGER STREET: 1177 West Loop South, 10th Floor
 12.8
112.8
112.8
112.8
112.8
112.8
112.8
112.8
112.8
112.8
112.8
112.8
112.8
112.8
 Floppy disk
 1977
21157
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
21185
2
 77.8%;
 US/07/972,791
 ; Score 14; DB
%; Pred. No. 66;
0; Mismatches
 US-09-626-589-5
US-09-626-589-4
US-08-173-508-3
US-08-265-310-3
US-08-265-310-3
US-08-951-742-3
US-08-952-214A-17
US-09-626-589-6
US-08-928-3618-4
US-08-928-3618-2
US-08-928-3618-2
US-08-928-3618-1
US-08-483-53-21
US-08-483-53-21
 ALIGNMENTS
 Version
 DB
66;
 ۲.
 #1.25
 Length 3208;
 Indels
```

Result

Query

00000000

C 0.0

0,

Gaps

0

იი

Database

Post-processing:

Ŷ

15

```
В
 US-07-972-791-5/c
 US-07-972-791-7
 RESULT 2
US-07-972-791-7/c
 밁
 Sequence 5, Application US/07972791
Patent No. 5348857
 Matches 14;
 Query Match 77.8%;
Best Local Similarity 100.0%;
 Sequence 7, Application US/07972791 Patent No. 5348857
 GENERAL INFORMATION:
 INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 3345 base pairs
TYPE: NUCLEIC ACID
 GENERAL INFORMATION:
 APPLICANT: Ficht, Thomas A.
APPLICANT: Sowa, Blair A.
APPLICANT: Adams, L. Gary
TITLE OF INVENTION: NOVEL PROBES AND METHOD FOR IDENTIFYING
TITLE OF INVENTION: SPECIES AND BIOVARS OF BRUCELLA
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
 2 gttaattcgcgttc 15
||||||||||||
1487 GTTAATTCGCGTTC 1474
 ATTORNEY/AGENT INFORMATION:
NAME: Kettelberger, Denise M.
TELECOMMUNICATION INFORMATION:
TELEPHONE: 713-850-0909
TELEFAX: 713-850-0165
 MOLECULE TYPE:
ORIGINAL SOURCE:
 SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
 CORRESPONDENCE ADDRESS:
ADDRESSEE: PRAVEL, GAMBRELL, HEWITT, & KRIEGER
STREET: 1177 West Loop South, 10th Floor
 APPLICANT: Fight, Thomas A.
APPLICANT: Sowa, Blair A.
APPLICANT: Sowa, Blair A.
APPLICANT: Adams, L. Gary
TITLE OF INVENTION: NOVEL PROBES AND METHOD FOR IDENTIFYING
TITLE OF INVENTION: SPECIES AND BIOVARS OF BRUCELLA
NUMBER OF SEQUENCES: 32
 1488 GTTAATTCGCGTTC 1475
 TELLEFAX: 71.
TELEFAX: 792026
 ADDRESSEE:
 ORGANISM:
 APPLICATION NUMBER: US
FILING DATE: 19921106
CLASSIFICATION: 435
 CITY: Houston
STATE: Texas
 STRAIN:
 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
 TOPOLOGY:
 STRANDEDNESS:
 COUNTRY:
 2 gttaattcgcgttc
||||||||||||||||
 USA
77027
 biovar 1
 Conservative
 Brucella melitensis
 linear
PRAVEL, GAMBRELL, HEWITT, & KRIEGER
 CDNA
 single
 US/07/972,791
 0;
 Score 14;
Pred. No.
 Mismatches
 DB 1;
67;
 0;
 Length 3345;
 Indels
 0
 Gaps
 0;
```

```
US-07-972-791-2/c

: Sequence 2, Application US/07972791

; Patent No. 5348857
 밁
 RESULT
 Query Match
Best Local Similarity
Matches 14; Conserv
 GENERAL INFORMATION:
 INFORMATION FOR SEQ ID NO:
 TOPOLOGY: line MOLECULE TYPE: c ORIGINAL SOURCE:
 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
 ATTORNEY/AGENT INFORMATION:
NAME: Kettelberger, Denise M.
TELECOMMUNICATION INFORMATION:
 APPLICANT: Ficht, Thomas A
APPLICANT: Sowa, Blair A.
APPLICANT: Adams, L. Gary
 TITLE OF INVENTION: NOVEL PROBES AND METHOD FOR IDENTIFYING TITLE OF INVENTION: SPECIES AND BIOVARS OF BRUCELLA NUMBER OF SEQUENCES: 32
 1488 GTTAATTCGCGTTC 1475
 CORRESPONDENCE ADDRESS:
 SEQUENCE CHARACTERISTICS:
LENGTH: 3346 base pairs
TYPE: NUCLEIC ACID
STRANDEDNESS: single
 NAME: Kettelberger, Denise M.
TELECOMMUNICATION INFORMATION:
TELEPHONE: 713-850-0909
TELEPAX: 713-850-0165
TELEX: 792026
 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
FILING DATE: 19921106
CLASSIFICATION: 435
 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0
 ATTORNEY/AGENT INFORMATION: NAME: Kettelberger, Deni
 APPLICATION NUMBER: UPPLICATION NUMBER: UPPLICATION 19921106
 CITY: Houston
STATE: Texas
 COUNTRY: U.ZIP: 77027
 STREET:
 STREET:
CITY: H
 ADDRESSEE:
 2 gttaattcgcgttc 15
 ORGANISM:
 COUNTRY: USA
ZIP: 77027
 Houston
 Texas
 E: PRAVEL, GAMBRELL, HEWITT, & KRIEGER 1177 West Loop South, 10th Floor
 USA
713-850-0165
 1177 West Loop South, 10th Floor
 ilarity 100.0%; F
Conservative 0;
 Brucella neotomae
 linear
 PatentIn Release #1.0, Version
 CDNA
 Thomas A.
 77.8%; Score 14; 100.0%; Pred. No.
 US/07/972,791
 US/07/972,791
 5
 Mismatches
 DB 1;
67;
 0;
 Length 3346;
 0;
 Gaps
```

```
; STRAIN:
US-07-972-791-8
 RESULT 5
US-07-972-791-8/c
 ş
 밁
 ; STRAIN:
US-07-972-791-2
 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: ILBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/972,791
FILING DATE: 19921106
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Kettelberger, Denise M.
TELECOMMUNICATION 1970-1970
TELEPHONE: 713-550-0909
 Best Local Similarity Matches 14; Conserv
 Query Match
 Ouery Match Similarity 100.0%; F Best Local Similarity 100.0%; F Matches 14; Conservative 0;
 Sequence 8, Application US/07972791 Patent No. 5348857
 GENERAL INFORMATION:
APPLICANT: Ficht, Thomas A.
APPLICANT: Sowa, Blair A.
APPLICANT: Adams, L. Gary
 TELEFAX: 713-850-0165
TELEX: 792026
INFORMATION FOR SED ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 3347 base pairs
 TELEX: 792026 INFORMATION FOR SEQ ID NO:
 MOLECULE TYPE:
ORIGINAL SOURCE:
ORGANISM: Bru
 1488 GTTAATTCGCGTTC 1475
 NUMBER OF SEQUENCES: 3
 APPLICANT: Adams, L. Gary
TITLE OF INVENTION: NOVEL PROBES AND METHOD FOR IDENTIFYING
TITLE OF INVENTION: SPECIES AND BIOVARS OF BRUCELLA
 MOLECULE TYPE: (
ORIGINAL SOURCE:
 SEQUENCE CHARACTERISTICS:
LENGTH: 3347 base pair
 ORGANISM: Bruce ORGANISM: Bruce 5
 TELEPHONE: 713-850-0165
 STATE: To...
 TOPOLOGY:
 STRANDEDNESS:
 COUNTRY: USA
ZIP: 77027
 STREET:
 ADDRESSEE:
 STRANDEDNESS: single
 TOPOLOGY:
 TYPE: NUCLEIC ACID
 2 gttaattcgcgttc 15
 NUCLEIC ACID
 biovar 1
 E: PRAVEL, GAMBRELL, HEWITT, & KRIEGER 1177 West Loop South, 10th Floor
77.8%; Score 14; DB 1; ilarity 100.0%; Pred. No. 67; Conservative 0; Mismatches
 3347 base pairs
 Brucells suis
 linear
 linear
 Brucella abortus
 CDNA
 single
 CDNA
 77.8%; Score 14; DB 100.0%; Pred. No. 67; Live 0; Mismatches
 2
 DB 1; Length 3347;
. 67;
 0
 Length 3347;
 0
 Indels
0;
 0
Gaps
 Gaps
0
 0;
```

```
TYPE: NUCLEIC ACID
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: CONA
ORIGINAL SOURCE:
ORGANISM: Brucella ovis
US-07-972-791-6
 5310649-1/c; Patent No. 5310649

APPLICANT: Ficht, Thomas A.; Sowa, Blair A.; Adams, Garry L.; TITLE OF INVENTION: METHOD OF DETECTING SPECIES AND BIOVARS;
5310649-1
 ş
 밁
 GURRENT APPLICATION DATA:
APPLICATION NUMBER: US/
EILING DATE: 22-MAY-1990;
SEQ ID NO:1:
 밁
 Q
 RESULT 6
US-07-972-791-6/c
 Query Match

Best Local Similarity

Matches 14; Conserv
 Sequence 6, Application US/07972791 Patent No. 5348857
 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
LENGTH: 3361 base pairs
 GENERAL INFORMATION:
 1503 GTTAATTCGCGTTC 1490
 NAME: Kettelberger, Denise M. TELECOMMUNICATION INFORMATION: TELEPHONE: 713-850-0909
 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
 SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
 APPLICANT: Ficht, Thomas A.
APPLICANT: Sowa, Blair A.
APPLICANT: Adams, L. Gary
TITLE OF INVENTION: NOVEL PROBES AND METHOD FOR IDENTIFYING
TITLE OF INVENTION: SPECIES AND BIOVARS OF BRUCELLA
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
 ATTORNEY/AGENT INFORMATION:
 1488 GTTAATTCGCGTTC 1475
 STREET: 1177 W
CITY: Houston
STATE: Texas
 LENGTH: 3434
 TYPE: N
 TELEPHONE: 713-850-0165
 APPLICATION NUMBER: FILING DATE: 19921 CLASSIFICATION: 43
 2 gttaattcgcgttc 15
 COUNTRY: U
ZIP: 77027
 ADDRESSEE: PRAVEL, GAMBRELL, HEWITT, & KRIEGER STREET: 1177 West Loop South, 10th Floor
 2 gttaattcgcgttc 15
 Conservative
 USA
 19921106
 77.8%;
 US/07/527,017
 US/07/972,791
 6.
 0;
 Score 14;
Pred. No.
 Mismatches
 DB 1; Length 3361; 67;
 0;
 0
 Gaps
```

```
US-08-844-274-13/c

: Sequence 13, Application US/08844274B

: Patent NO. 6218185.
 밁
 ; OTHER INFORMATION: Description of Artificial Sequence:p3E1.2 delta; OTHER INFORMATION: TRL
US-08-844-274-10
 ş
 US-08-844-274-10/c
 SEQ ID NO 13
LENGTH: 6723
 Query Match
Best Local S
 GENERAL INFORMATION:
 SOFTWARE: PatentIn Ver. 2.0 - beta
SEQ ID NO 10
LENGTH: 5679
OTHER INFORMATION: Description of Artificial Sequence:Clone p3el.2H/S · 08-844-274-13
 Sequence 10, APP--
Sequence 10, APP--
No. 6218185
 EARLIER APPLICATION NUMBER: 60/016,234
EARLIER FILING DATE: 1996-04-19
NUMBER OF SEQ ID NOS: 22
 CURRENT APPLICATION NUMBER: US/08/844,274B CURRENT FILING DATE: 1997-04-18
 TITLE OF INVENTION: PiggyBac Transposon-Based Genetic transformation System TITLE OF INVENTION: for Insects FILE REFERENCE: 0148.96
 APPLICANT: Fraser Jr., Malcom
APPLICANT: Shirk, Paul D.
APPLICANT: Elick, Teri A.
APPLICANT: Perera, Omaththage
 APPLICANT: Fraser Jr., Malcom J.
APPLICANT: Shirk, Paul D.
APPLICANT: Elick, Teri A.
APPLICANT: Elick, Teri A.
APPLICANT: Elick, Teri A.
APPLICANT: Perera, Omathihage
TITLE OF INVENTION: PiggyBac Transposon-Based Genetic transformation System
TITLE OF INVENTION: for Insects
FILE REFERENCE: 0148.96
FILE REFERENCE: 0148.96
CURRENT APPLICATION NUMBER: US/08/844,274B
CURRENT FILING DATE: 1997-04-18
EARLIER APPLICATION NUMBER: 60/016,234
EARLIER APPLICATION NUMBER: 60/016,234
NUMBER OF SEQ ID NOS: 22
 Matches
 SOFTWARE: PatentIn Ver. 2.0 - beta
 Query Match
Best Local :
 FEATURE:
 ORGANISM: Artificial Sequence
 ORGANISM: Artificial Sequence FEATURE:
 TYPE: DNA
 2 gttaattcgcgttc 15
||||||||||||
1692 GTTAATTCGCGTTC 1679
 Local Similarity 88.2%; les 15; Conservation
 INFORMATION:
 ch 77.8%;
l Similarity 100.0%;
l4; Conservative
 Application US/08844274B
 Malcom J.
 0;
 Score 13.8;
Pred. No. 89;
 Score 14;
Pred. No
 Mismatches
 Mismatches
 NO.
 DB 6;
. 67;
 DB 4;
 2
 0;
 Length 3434;
 Length 5679;
 Indels
 Indels
 0
 0;
 Gaps
 Gaps
 0
 0;
```

```
TITLE OF INVENTION: PiggyBac Transposon-Based Genetic transformation System
FITLE OF INVENTION: For Insects
FILE REFERENCE: 0148.96
CURRENT FILLING DATE: 1997-04-18
EARLIER APPLICATION NUMBER: 60/016,234
EARLIER FILLING DATE: 1996-04-19
SOFTWARE: Patentin Ver. 2.0 - beta
SOFTWARE: Patentin Ver. 2.0 - beta
TYPE: DNa
; OTHER INFORMATION: Description of Artificial Sequence:p3E1.2hs/opdUS-08-844-274-20
 GENERAL INFORMATION:
APPLICANT: Fraser Jr., Mal
APPLICANT: Shirk, Paul D.
APPLICANT: Elick, Teri A.
APPLICANT: Perera, Omathth
 δ
 RESULT 11
US-08-844-274-20
 ; OTHER INFORMATION: Description of Artificial Sequence:piggyBac/opd US-08-844-274-14
 밁
 US-08-844-274-14
 Sequence 20, Appli
Patent No. 6218185
 Query Match 76.7%;
Best Local Similarity 88.2%;
Matches 15; Conservative
 CURRENT APPLICATION NUMBER: US/08/844,274B
CURRENT FILING DATE: 1997-04-18
EARLIER APPLICATION NUMBER: 60/016,234
EARLIER FILING DATE: 1996-04-19
NUMBER OF SEQ ID NOS: 22
SOFTMARE: Patentin Ver. 2.0 - beta
SEQ ID NO 14
FEBRUARY
 Query Match
Best Local S
Matches 15
 GENERAL INFORMATION:
 Patent No. 62181
 Sequence 14,
 TYPE: DNA ORGANISM: Artificial Sequence
 APPLICANT: Fraser Jr., Malcom
APPLICANT: Shirk, Paul D.
APPLICANT: Elick, Teri A.
APPLICANT: Perera, Omaththage
 TITLE OF INVENTION: P199yBac Transposon-Based Genetic transformation System TITLE OF INVENTION: for Insects FILE REFERENCE: 0148.96
 ORGANISM: Artificial Sequence
 5919 cgttaatacgcgttcgt 5935
 FEATURE:
 LENGTH: 6723
 805 CGTTAATACGCGTTCGT 789
 1 cgttaattcgcgttcct 17
 cgttaattcgcgttcct 17
 DNA
 Similarity
 Application US/08844274B
 Application US/08844274B
 Conservative
 76.7%;
88.2%;
 Malcom J
 0,
 Score 13.8;
Pred. No. 9
 Score 13.8;
Pred. No. 9(
 Mismatches
 Mismatches
 90
 DB
 В
 ٠.
 4.
 <u>ب</u>
 Length 6723;
 Length 6723;
 Indels
 Indels
 0
 0
 Gaps
 Gaps
 0
 0
```

```
В
 Ş
 US-07-972-791-1/c
 ; NAME/KEY: CDS
; LOCATION: (4515)..(9269)
; OTHER INFORMATION: orf5 -176 kDa
US-09-251-645-1
 US-09-251-645-1
 밁
 Sequence 1, application US/07972791 Patent No. 5348857 GENERAL INFORMATION:
 CURRENT APPLICATION NUMBER: US/09/251,645
CURRENT FILING DAFF: 1999-02-17
NUMBER OF SEQ ID NOS: 22
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 1
 Query Match
Best Local :
 Matches
 Sequence 1, Applic
Patent No. 6281413
 Matches
 Query Match 76.7%;
Best Local Similarity 88.2%;
 APPLICANT: Hart, Hope
APPLICANT: Warren, Gregory W.
APPLICANT: Dunn, Martha
APPLICANT: Chen, Jeng S.
TITLE OF INVENTION: NOVEL INSECTICIDAL TOXINS FROM PHOTORHABBUS LUMINESCENS
TITLE OF INVENTION: AND NUCLEIC ACID SEQUENCES CODING THEREFOR
FILE REFERENCE: CGC1963/A
 APPLICANT: Kramer, Vance C. APPLICANT: Morgan, Michael K. APPLICANT: Anderson, Arne R.
 FEATURE:
NAME/KEY: CDS
LOCATION: (412)..(1665)
OTHER INFORMATION: Orf1
 NAME/KEY: CDS
LOCATION: (3342)..(4118)
OTHER INFORMATION: orf4 ~28.7
 NAME/KEY: CDS
LOCATION: (2758)..(3318)
OTHER INFORMATION: orf3
 LOCATION: (1686)..(2447)
OTHER INFORMATION: orf2 ~28.1kDa
 LENGTH: 9717
TYPE: DNA
ORGANISM: Photorhabdus luminescens
 FEATURE:
 NAME/KEY: CDS
APPLICANT: Ficht, Thomas A.
APPLICANT: Sowa, Blair A.
APPLICANT: Adams, L. Gary
TITLE OF INVENTION: NOVEL PROBES AND METHOD FOR IDENTIFYING
 1 cgttaattcgcgttcct 17
||||||| ||||||||
|4357 cgttaatacgcgttcgt 4373
 546
 Local Similarity
mes 15; Conserv
 1 cgttaattcgcgttcct 17
 cattaattcgcgtttct 562
 INFORMATION:
 Application US/09251645
 Conservative
 Conservative
 76.7%;
88.2%;
 -20.7
 ~46.4 kDa
 0;
 0;
 Score 13.8;
Pred. No. 93;
 Pred. No.
 Score 13.8;
 Mismatches
 Mismatches
 DB 4;
 DB
 4.
 2
 2;
 Length 9717;
 Length 7560;
 Indels
 Indels
 0;
 0;
 Gaps
 Gaps
 0
 0
```

```
APPLICANT: WILKINSON, HILARY
TIPLE OF INVENTION: ESTROGEN RECEPTOR
FILE REFERENCE: 20047Y
CURRENT APPLICATION NUMBER: US/09/139,617
CURRENT FILING DATE: 1998-08-25
EARLIER APPLICATION NUMBER: 60/58,271
EARLIER FILING DATE: 1997-09-08
EARLIER FILING DATE: 1997-09-08
EARLIER FILING DATE: 1997-09-30
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 10
LENGTH: 23
TYPE: DNA
 Q
 ; ORGANISM: HUMAN US-09-139-617-10
 US-09-139-617-10/c
 밁
 GENERAL INFORMATION:
 Sequence 10, Application US/09139617 Patent No. 6222015
 Query Match
Best Local Similarity
Matches 13; Conserv
 Matches
 Query Match
Best Local
 TELEFAX: 713-850-0165
TELEX: 792026
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 3378 base pairs
 CLASSIFICATION: 435
ATTORNEY AGENT INFORMATION:
NAME: Kettelberger, Denise
TELECOMMUNICATION INFORMATION:
TELEPHONE: 713-850-0909
 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/972,79
FILING DATE: 19921106
 1519 GTTAATTCGCGTTY 1506
 MOLECULE TYPE:
 MEDIUM TYPE: Floppy
 TITLE OF INVENTION: SP
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
 STREET: 11.
STREET: 11.
TTTY: Houston
Texas
 STRANDEDNESS:
TOPOLOGY: lin
 TELEPHONE: 713 CTERAX: 713-850-0165
 TYPE:
 COUNTRY: UZIP: 77027
1 cgttaattcgcgttcctc 18
| ||||||| | | |||||
 2 gttaattcgcgttc 15
 1 Similarity
15; Conserv
 NUCLEIC ACID
 E: PRAVEL, GAMBRELL, HEWITT, & KRIEGER 1177 West Loop South, 10th Floor
 USA
 Conservative
 Conservative
 linear
 Floppy disk
 CDNA
 single
 73.3%;
 75.6%;
92.9%;
 SPECIES AND BIOVARS OF BRUCELLA 32
 US/07/972,791
 0;
 Score 13.2; DB 4;
Pred. No. 1.2e+02;
0; Mismatches 3;
 Score 13.6; DB 1;
Pred. No. 1.1e+02;
1; Mismatches 0;
 3
 Version #1.25
 0;
 Length 23;
 Length 3378;
 Indels
 0
 0;
 Gaps
 Gaps
 0;
 0
```

밁

19 CCTTAATTCTCCTTCCTC

```
ZIP: 19898
COMPUTER READABLE FORM:
MEDIUM TYPEE DISKETTE, 3.50 INCH
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: MICROSOFT WORD FOR WINDOWS 95
SOFTWARE: MICROSOFT WORD VERSION 7.0A
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/181,183
FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: FLOYD, LINDA XXAMETHY
REGISTRATION NUMBER: 33,692
REFERENCE/DOCKET NUMBER: CL-1083
TELECOMMUNICATION INFORMATION:
TELEPHONE: 302-992-8112
TELEFAX: 302-773-0164
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 471 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
MOLECULE TYPE: CONA
HYPOTHETICAL: NO
ORIGINAL SOURCE:
INDIVIDUAL ISOLATE: mature spinach LS
US-09-181-183-1
Search completed: August 21, 2002, 22:12:32 Job time: 5705 sec
 В
 Ş
 RESULT 15
US-09-181-183-1
 Query Match 73.3
Best Local Similarity 83.3
Matches 15; Conservative
 APPLICANT: UITANEN, PAUL VEIKKO
APPLICANT: DACOT, KAREN ONLEY
APPLICANT: JORDAN, DOUGLAS BRIAN
TITLE OF INVENTION: LUMAZINE SYNTHASE AND
TITLE OF INVENTION: RIBOFLAVIN SYNTHASE
NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
ADDRESSEE: E. I. DU PONT DE NEMOURS AND COMPANY
STREET: 1007 MARKET STREET
COUNTRY: UNITED STATES OF AMERICA
ZIP: 19898
 Sequence 1, Application US/09181183 Patent No. 6146866
 GENERAL INFORMATION:
 276 CGTTAATTCTGCTTCCTC 293
 1 cgttaattcgcgttcctc 18
 73.3%;
 Score 13.2; DB 3; Length 471;
Pred. No. 1.5e+02;
0; Mismatches 3; Indels
 95
 0;
 Gaps
 0,
```

```
Result
No.
 Database :
 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
 Minimum DB seq
Maximum DB seq
 O
 O
 Total number of hits satisfying chosen parameters:
 000
 Searched:
 Title:
Perfect score:
 OM nucleic - nucleic search, using sy model
 Scoring table:
 Sequence:
 Run on:
 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
 15
15
15
15
15
14 . 8
14 . 8
14 . 8
14 . 8
14 . 8
14 . 8
14 . 8
 Score
 15.4
15.4
15.4
15.4
 length: 0
length: 2000000000
 %
Query
Match
 4.
5.
5.
7.
7.
9.
9.
10.
112.
113.
114.
 August 21, 2002, 21:32:20 ; Search time 5019.06 Seconds (without alignments) 48.405 Million cell updates/sec
 EST:*
 13736207 seqs, 6748477542 residues
 IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
 US-10-046-955-50
18
 em_htc:*
gb_est1:*
gb_est2:*
gb_htc:*
gb_htc:*
gb_gs:;*
em_gss_hum:*
em_gss_lnv:*
em_gss_pln:*
em_gss_vrt:*
 GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
 em_esthum:*
em_estin:*
em_estmu:*
em_estov:*
em_estpl:*
em_estro:*
 cgttaattcgcgttcctc 18
 em_estba:*
 Length DB
 493
499
740
311
543
636
636
1057
206
206
208
303
388
398
411
 12
12
10
10
10
12
12
12
 2 AZ359925

2 AZ498171

2 AZ498171

2 BH144783

2 AK6429181

2 BH833121

8 BH881942

0 BE557132

0 BE557132

0 BG557132

0 AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070

AZ991070
 IJ
 SUMMARIES
 27472414
AZ359925 1M0103B02
BH452985 BOHGAGOTE
AZ498171 1M0335P13
BH144783 TDGEO91TH
AG042918 Pan trog1
AW83312 RC2-TT000
B1881942 fm89911.x
BE557132 fk94909.y
BG723264 60269084
AG081712 Pan trog1
AZ991070 2M0275N03
AZ91080 2M0275N03
 Description
```

| O        | O        |          |          |          |          |          |          |          |          |          |          |          |          | O        |           | ი         |          |           | o          |          |          |            | ဂ         |          |          |           |                    |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|----------|-----------|------------|----------|----------|------------|-----------|----------|----------|-----------|--------------------|
| ď        | 4        | 43       | 42       | 41       | 40       | 39       | <u>س</u> | 37       | 36       | ယ        | 34       | ω<br>ω   | 2        | <u> </u> | 30        | 29        | 28       | 27        | 26         | 25       | 24       | 23         | 22        | 21       | 20       | 19        | 18                 |
| 14.8     | 14.8     |          | 14.8     |          | 14.8     | 14.8     | 14.8     | 14.8     | 14.8     | 14.8     | 14.8     | 14.8     | 14.8     | 14.8     | 14.8      | 14.8      |          |           | 14.8       | 14.8     | 14.8     | 14.8       | 14.8      | 14.8     | 14.8     | 14.8      | 14.8               |
| •        | 82.2     | •        |          |          |          |          |          |          |          |          |          |          |          |          |           |           |          |           |            |          |          |            |           |          |          |           | 82.2               |
| 860      | 804      | 750      | 745      | 733      | 726      | 707      | 671      | 651      | 651      | 642      | 615      | 598      | 594      | 585      | 578       | 574       | 527      | 513       | 509        | 505      | 484      | 481        | 464       | 463      | 457      | 448       | 430                |
| 12       | 10       | 10       | 10       | 10       | 10       | 10       | 10       | 9        | φ        | ø        | 12       | 12       | 10       | 10       | 10        | 9         | 10       | 12        | 9          | 10       | 12       | 10         | ø         | 10       | 10       | 12        | 9                  |
| CNS04KCL | BF382280 | BF493859 | BF491456 | BF494223 | BF485588 | BF504348 | BF486076 | AI237983 | AI108056 | A1657509 | AQ733407 | AQ657044 | BE978242 | в1984526 | BF491977  | AI488250  | BM130436 | CNS0713J  | AA533012   | BM131033 | вн378699 | BM130610   | AA941852  | BM130858 | BM130898 | AQ945783  | AI946050           |
|          | 60181519 |          | AT28196. | AT02664. | AT19512. | AT05693. | 6 AT2023 | GH13914. | GH06775  | AEMTBC24 | HS_5550  | Sheared  | bs75h01  | fu03q07. | 7 AT28836 | EST246572 |          | 7 Ánophel | n 146b12.s | p112f08. | ≥:       | 0 p107all. | LD27162.5 | p 10e01. | p110h10. | 3 Sheared | AI946050 bs20b03.v |

# ALIGNMENTS

|                                                                                                                                          | source | FEATURES            |                                                      |                                   |                               |          |                   |                   |            |                                                         |                                  | COMMENT                  | JOURNAL            |                 | TITLE                                                          |                           |                                                                     | AUTHORS                                                              | REFERENCE |                                                                   |                               | ORGANISM         | SOURCE      | KEVWORDS                | VERSION                | ACCESSION | DEFINITION      | LOCUS                                      | AZ359925/c | RESULT 1 |
|------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------|------------------------------------------------------|-----------------------------------|-------------------------------|----------|-------------------|-------------------|------------|---------------------------------------------------------|----------------------------------|--------------------------|--------------------|-----------------|----------------------------------------------------------------|---------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------|-----------|-------------------------------------------------------------------|-------------------------------|------------------|-------------|-------------------------|------------------------|-----------|-----------------|--------------------------------------------|------------|----------|
| /organism="Mus musculus" /strain="C57BL/6J" /db_xref="taxon:10090" /clone="UUGC1M0103B02" /clone_lib="Mouse 10kb plasmid UUGC1M library" | 1 262  | Location/Qualifiers | Class: plasmid ends High quality sequence stop: 262. | Seq primer: CGTTGTAAAACGACGGCCAGT | Plate: 0103 row: B column: 02 | utah.edu | Fax: 801 585 7177 | Tel: 801 585 5606 | 84112, USA | Rm 308 Biomedical Dolumore Books halde and again are un | University of Utah Genome Center | Contact: Robert B. Weiss | Unpublished (2000) | plasmid inserts | Mouse whole genome scaffolding with paired end reads from 10kb | and Wright, D., Weiss, R. | M., Rose, M., Rose, R., Stokes, R., Tingev. A., von Niederhausern A | Dunn, D., Aoyagi, A., Barber, M., Beacorn, T., Duval, B., Hamil, C., |           | Mammalia: Eutheria: Rodentia: Scinrognathi: Muridae: Murinae: Mus | Chordata Constata Valetalanta | Wine minoriality | house mouse | DOG CHARLE GENERAL CORD | AZ359025 1 GT-10473525 | A735005   | library Mus mus | AZ359925 262 bp DNA linear GSS 02-OCT-2000 |            |          |

```
REFERENCE
AUTHORS
TITLE
JOURNAL
 RESULT 2
BH452985/c
LOCUS
 BASE COUNT
ORIGIN
BASE COUNT
ORIGIN
 SOURCE
 DEFINITION
 Matches
 Query Match
Best Local
 source
 214 GTTAATTCGCCTTCCTC 198
 Local
 2 gttaattcgcgttcctc 18
 l Similarity
16; Conser
 Town,C.D., Van Aken,S., Utterback,T. and Fraser,C.M. Whole genome shotgun sequencing of Brassica oleracea Unpublished (2001) Other GSSs: BOHGA60TR Contact: Chris Town
 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II; Brassicales; Brassicaceae; Brassica.
 Brassica oleracea.
Brassica oleracea
 BH452985.1 GI:17638696
 sequence.
 BOHGA60TF BOHG Brassica oleracea genomic clone BOHGA60,
 Class: sheared ends
 Fax: 301-838-0208
 il: cdtown@tigr.org
 is from a doubled haploid
 primer: TF
 (bases 1 to 277)
 Medical Center Drive, 301-838-3523
 97
 82
 was hydrodynamically sheared by repeated passage through a 0.005 inch orifice at constant velocity. The sheared DNA was blunt end-repaired with T4 DNA polymerase and T4 polynucleotide kinase. Adaptor oligonucleotides were ligated to the blunt ends in high molar excess. The adaptored DNA was purified and size-selected for a 9.5 to 10.5 kb range using preparative agarose gel electrophoresis. Vector DNA was prepared from a derivative of pWD42 (gi14732114|gb|AF129072.1), a copy-number inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adaptored mouse DNA was annealed to adaptored vector DNA, and transformed into chemically-competent E. coli XL10-Gold (Stratagene) cells and selected for ampicillin resistance."
 Conservative
 /organism="Brassica oleracea"
/strain="T01000DH3"
/db_xref="taxon:3712"
/clone="B0HGA60"
/clone=11b="B0HG"
/clone=11b="B0HG"
/note="Vector: pHOS1; Site_1: BstXI; 2-3 kb sheared genomic DNA inserted into pHOS1 using BstXI linkers"
a 79 c 66 g 50 t
 /lab_host="E. Coli strain XL10-Gold, T1-resistant, F-"
/note="Vector: PWD42nv; Purified genomic DNA from M.
musculus C57BL/6J (male) was obtained from the Jackso
 Laboratory Mouse DNA Resource
 Location/Qualifiers
1. .277
 85.6%;
94.1%;
 Score 15.4; DB 12; Pred. No. 4.6e+02;
 Mismatches
 277 bp
 Rockville,
 provided
 DNA
 MD 20850,
 ьy
 Tom Osborn
 Indels
 Length
 linear
 from the Jackson
 GSS 12-DEC-2001
 0;
 Gaps
 0
```

₽

FEATURES

COMMENT

KEYWORDS ACCESSION VERSION

```
RESULT 3
AZ498171/c
 ACCESSION
VERSION
 Ş
 В
BASE COUNT
ORIGIN
 FEATURES
 COMMENT
 REFERENCE
 SOURCE
ORGANISM
 KEYWORDS
 DEFINITION
 TITLE
 Query Match
Best Local
 JOURNAL
 AUTHORS
 Matches
 source
 493 bp DNA linear GSS 05-OCT-200 IN0335P13F Mouse 10kb plasmid UUGC1M library Mus musculus genomic clone UUGC1M0335P13 F, DNA sequence.
AZ498171
 l Similarity 94.1
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 493)

Dunn,D., Aoyagi.A., Barber,M., Beacorn,T., Duval,B., Hamil,C., Islam,H., Longacre,S., Mahmoud,M., Meenen,E., Pedersen,T., Reilly,M., Rose,M., Rose,R., Stokes,R., Tingey,A., von Niederhausern,A.
 High quality sequence stop: 493.
Location/Qualifiers
 Email: ddunn@genetics.utah.edu
Insert Length: 10000 Std Error:
Plate: 0335 row: P column: 13
 Tel: 801 585 5606
Fax: 801 585 7177
 University of Utah Genome Center
University of Utah
Rm. 308, Biomedical Polymers Research Bldg.,
 Unpublished (2000)
Contact: Robert B.
 Mouse whole genome scaffolding with paired end reads from 10kb
 Mus musculus
 Class: plasmid ends
 Seq primer: CGTTGTAAAACGACGGCCAGT
 plasmid inserts
 and Wright, D., Weiss, R.
 AZ498171.1
 141
 (http://www.jax.org/resources/documents/dnares/). The DNA was hydrodynamically sheared by repeated passage through a 0.005 inch orifice at constant velocity. The sheared DNA was blunt end-repaired with T4 DNA polymerase and T4 polynucleotide kinase. Adaptor oligonucleotides were ligated to the blunt ends in high molar excess. The adaptored DNA was purified and size-selected for a 9.5 to 10.5 kb range using preparative agarose gel electrophoresis. Vector DNA was prepared from a derivative of pWD42 (gil4732114|gblAF129072.1), a copy-number inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adaptored mouse DNA was annealed to adaptored vector DNA, and transformed into chemically-competent E. coli xL10-Gold (Stratagene) cells and selected for ampicillin resistance.*
 USA
 /note-"Vector: PWD42nv; Purified genomic DNA from M. musculus C57BL/6J (male) was obtained from the Jackson
 /db_xref="taxon:10090"
/clone="UUGC1M0335P13"
 /organism="Mus musculus"
/strain="C57BL/6J"
 1. .493
 Laboratory Mouse DNA Resource
 /lab_host="E. Coli strain XL10-Gold, T1-resistant, F
/note="Vector: PWD42nv; Purified genomic DNA from M.
 /clone_lib="Mouse 10kb plasmid UUGC1M library"
 /sex="Male"
 GI:10675786
 85.6%;
94.1%;
 Weiss
 Score 15.4; DB 12;
Pred. No. 4.7e+02;
0; Mismatches 1;
 0.00
 Length 277;
 Indels
 20
 ŝ
 2030
 GSS 05-OCT-2000
 0
 (F)
 SLC,
 Ę
 0
```

```
RESULT
BH144783
 REFERENCE
AUTHORS
 ş
RESULT
AG042918
 á
 FEATURES
 COMMENT
 SOURCE
 VERSION
 ACCESSION
 망
 밁
 ORIGIN
 DEFINITION
 BASE COUNT
 KEYWORDS
 SOCOS
 Query Match
Best Local S
Matches 16
 ORGANISM
 Matches
 Query Match
Best Local Similarity
 TITLE
 JOURNAL
 source
 116
 JIIIIIIIII IIIIII 383 GTTAATTCGCCTTCCTC 367
 2 gttaattcgcgttcctc 18
 gttaattcgcgttcctc 18
 GTTAATTCGCGTCCCTC 132
 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Asteridae; euasterids I; Solanales; Solanaceae; Solanum;
 BH144783 499 bp DNA line TDGEO91TH cTOG Lycopersicon esculentum genomic
 Tomato Demethylated Genomic DNA Sequences Unpublished (2001)
 BH144783.1
 sequence.
 Class: shotgun
 Insert Length: 1270 Std Error:
 Email: http://www.genome.clemson.edu/orders/index.html
 100 Jordan Hall, Clemson, SC 29634, USA
 Clemson University Genomics Institute
 Tanksley, S.
 van der Hoeven, R., Sun, H., Cho, J., Utterback, T.,
 Lycopersicon esculentum
 tomato
 Lycopersicon
 Similarity
 (bases 1 to 499)
 primer: M13F-R
 152
 Conservative
 Conservative
 ø
 /note="Vector: pBluescript SK(-); Site_1: EcoRI; Site_2: xhoI; This library was made from short EcoRI digested fragments of the genome of Lycopersicon esculentum ligated into pBS (SK-). The fragments were cloned into the methylation restrictive E.coli strain JM109 with the purpose of enriching the library for non-methylated DNA fragments. This procedure may enrich the pool of cloned fragments in JM109 cells for sequences representing expressed genes. Average insert size 1.27 kb."
 CUGI
 /organism="Lycopersicon
/cultivar="E6203"
/db_xref="taxon:4081"
/clone="CTOG30P13"
 /tissue_type="young leaves"
/dev_stage="12-14 weeks post harvest"
/lab_host="E.coli_JM109"
 /clone_lib="cTOG"
 ocation/Qualifiers
 85.6%;
94.1%;
 85.6%;
94.1%;
 0,
 Score 15.4; DB 12; Pred. No. 5.4e+02;
 Score 15.4; DB 12; Pred. No. 5.4e+02;
 Std Error: 0.00
 Mismatches
 499 bp
 Mismatches
 esculentum"
 Length 493;
 Length 499;
 linear
 clone cTOG30P13,
 Ronning, C. and
 GSS 16-AUG-2001
 0;
 0;
 Gaps
 DNA
 0
 0
 JOURNAL
REFERENCE
 REFERENCE
AUTHORS
 VERSION
KEYWORDS
 REFERENCE
AUTHORS
 VERSION
KEYWORDS
SOURCE
 밁
 BASE COUNT
ORIGIN
 COMMENT
 SOURCE
 ACCESSION
 RESULT 6
AW833312/c
 FEATURES
 DEFINITION
 ACCESSION
 FOCUS
 TITLE
 JOURNAL
 AUTHORS
 TITLE
 ORGANISM
 ORGANISM
 Matches
 Query Match
Best Local
 TITLE
 source
```

```
LOCUS
DEFINITION
 614 GTTAATACGCGTTCCTC 630
 2 gttaattcgcgttcctc 18
 Submitted (02-AUG-2001) Asao Fujiyama, The Institute of Physical and Chemical Research (RIKEN), Genomic Sciences Center (GSC); 1-7-22 Suehiro-chou, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (E-mail:chimpbes@gsc.riken.go.jp, URL:http://hgp.gsc.riken.go.jp/, Tel:81-45-503-9111, Fax:81-45-503-9170) Clones are derived from the chimpanzee BAC library PTB This BAC end was generated during the R&D process and may have higher chance of
 l Similarity
16; Conserv
 Fujlyama, A., Hattori, M., Toyoda, A., Taylor, T.D., Yada, T., Totoki, Y., Watanabe, H. and Sakaki, Y.
Direct Submission
 Fujiyama,A.,
 AG042918.1 GI:16571643
GSS; GSS (genome survey sequence).
Pan troglodytes male lymphoblast DNA, clone_lib:PTB Chimpanzee Male
BAC Library clone:PTB-021B05.R.
 AG042918 740
Pan troglodytes DNA, clone:
AG042918
 1 (bases 1 to 311)
Dias Neto,E., Garcia Correa,R., Verjovski-Almeida,S., Briones,M.R.,
Nagai,M.A., da Silva,W. Jr., Zago,M.A., Bordin,S., Costa,F.F.,
Goldman,G.H., Carvalho,A.F., Matsukuma,A., Baia,G.S., Simpson,D.H.,
Brunstein,A., (teOliveira,P.S., Bucher,P., Jongeneet,C.V., O'Hare
,M.J., Soares,F., Brentani,R.R., Reis,L.F., de Souza,S.J. and
 Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 Unpublished
 BAC end sequences of Library PTB
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan.
 Pan troglodytes
Simpson, A.J.

Shotgun sequencing of the human transcriptome with ORF expressed
 AW833312
RC2-TT0007-011199-011-h07
AW833312
 Totoki, Y., Watanabe, H. and Sakaki, Y.
 numan.
 AW833312.1
 LIBRARY
 PRIMERS
 (sites)
 (bases 1 to 740)
 242
 Vector : pKS145
R.Site 1 : SacI
R.Site 2 : SacI.
 Conservative
 Sequencing: M13Rev
 tracking errors.
 /organism="Pan troglodytes"
/db_xref="taxon:9598"
 /clone_lib="PTB Chimpanzee Male BAC Library"
129 c 118 g 236 t 15 others
 /sex="male"
/cell_type="lymphoblast"
 /clone="PTB-021B05.R"
 Location/Qualifiers
 GI:7927286
 Hattori, M.,
 85.6%;
94.1%;
 0;
 Score 15.4; DB
Pred. No. 6e+02;
 Toyoda, A.,
 311 bp mRNA linear
TT0007 Homo sapiens cDNA,
 740
 Mismatches
) bp DNA linear GSS 01-NOV-200
PTB-021B05.R, genomic survey sequence.
 Taylor, T.D.,
 Length
 Indels
 GSS 01-NOV-2001
 mRNA sequence.
 EST 18-MAY-2000
 0
 Gaps
 0
```

```
RESULT
B1881942
 COMMENT
 ACCESSION
VERSION
 SOURCE
 용
 á
 COMMENT
 REFERENCE
 DEFINITION
 ORIGIN
 BASE COUNT
 FEATURES
 KEYWORDS
 POCUS
 TITLE
JOURNAL
 JOURNAL
MEDLINE
 AUTHORS
 Matches
 Query Match
Best Local 9
 source
 245
 4
 taattcgcgttcctc 18
 TAATTCGCGTTCCTC 231
 Unpublished (1998)
Other_ESTs: fm89g12.y1
Contact: Stephen L. Johnson
Washington University School of Medicine
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108, USA
 Clark M., Johnson, S.L., Lehrach, H., Lee, R., Li, F., Marra, M., Eddy, S., Hiller, L., Kucaba, T., Martin, J., Beck, C., Wylie, T., Underwoo, K., Steptoe, M., Theising, B., Allen, M., Bowers, Y., Person, B., Swaller, T., Gibbons, M., Pape, D., Harvey, N., Schurk, R., Ritter, E., Swaller, T., Gibbons, M., Pape, D., Harvey, N., Schurk, R., Waterston, R., Kohn, S., Shin, T., Jackson, Y., Cardenas, M., McCann, R., Waterston, R.
 B1881942 543 bp mRNA linear EST 12-OCT-200: fm89912.xl Zebrafish Research Genetics C32 fin Danio rerio cDNA clone 4468054 3' similar to TR:Q9Y4U4 Q9Y4U4 HYPOTHETICAL 164.5 KD
 l Similarity
15; Conser
 WashU Zebrafish EST Project 1998
 and Wilson, R.
 Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cyprinidae; Danio.
 В1881942
 Email: asimpson@ludwig.org.br
This sequence was derived from the FAPESP/LICR Human Cancer Genome
Project. This entry can be seen in the following URL
 Contact: Simpson A.J.G.
Laboratory of Cancer Genetics
Ludwig Institute for Cancer Research
 Danio rerio
 zebrafish
 BI881942.1 GI:16089213
 PROTEIN ; , mRNA sequence.
 High quality sequence start: 18 High quality sequence stop: 69.
 Proc. Natl. Acad. Sci. U.S.A.
 Seq primer: puc 18 forward
 (http://www.ludwig.org.br/scripts/gethtml2.pl7t1=&t2=RC2-TT0007-011
199-011-h07&t3=1999-11-01&t4=1)
 Tel: +55-11-2704922
 (bases 1 to 543)
 Prof. Antonio Prudente 109, 4 andar, 01509-010, Sao Paulo-SP,
314 286 1800
314 286 1810
 +55-11-2707001
 83
 Conservative
 /note-*Organ: testis: Vector: puc18; Site_1: SmaI; Site_2: SmaI; A mini-library was made by cloning products derived from ORESTES PCR (U.S. Letters Patent application No. 196. 716 - Ludwig Institute for Cancer Research) profiles into the pUC 18 vector. Reverse transcription of tissue mRNA and cDNA amplification were performed under low stringency conditions."
 /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone_lib="TT0007"
 /dev_stage="Adult"
 Location/Qualifiers
 83.3%; Score 15; DB
100.0%; Pred. No. 7.
ive 0; Mismatches
 97 (7), 3491-3496 (2000)
 DB 9; LC
5. 7.9e+02;
0;
 Length 311;
 EST 12-OCT-2001
 0;
 Underwood
 0;
```

```
REFERENCE
AUTHORS
 RESULT
BE557132
 VERSION
KEYWORDS
 COMMENT
 Š
 멍
 SOURCE
 ACCESSION
 DEFINITION
 ORIGIN
 BASE COUNT
 FEATURES
 Pocus
 Query Match
Best Local :
 ORGANISM
 Matches
 source
 96 TTAATTCGCGTTCCT 110
 3 ttaattcgcgttcct 17
Email: zbrafish@watson.wustl.edu
cDNA Library Arrayed by:
Research Genetics. DNA Sequencing by: Washington University
Sequencing Center Clone distribution: Research Genetics web
address: http://www.researchgenetics.com/
Seq primer: T3 ET from Amersham
 Clark, M., Johnson, S.L., Lehrach, H., Lee, R., Li, F., Marra, M., Eddy, S., Hiller, L., Kucaba, T., Martin, J., Beck, C., Wylie, T., Underwood, K., Steptoe, M., Theising, B., Allen, M., Bowers, Y., Person, B., Swaller, T., Gibbons, M., Pape, D., Harvey, N., Schurk, R., Ritter, E., Staller, T., Gibbons, M., Pape, D., Harvey, N., Schurk, R., Ritter, E.,
 Contact: Stephen L. Johnson
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. 1
 Unpublished (1998)
Other_ESTs: fk94g09.x1
 BE557132 636 bp mRNA linear EST 30-AUG-200 fk94909.yl Zebrafish Research Genetics C32 fin Danio rerio cDNA 5' similar to TR:O75923 O75923 DYSFERLIN. ;, mRNA sequence.
 Tel: 314 286 1800
Fax: 314 286 1810
 WashU Zebrafish EST Project 1998
 and Wilson, R.
 Kohn, S., Shin, T., Jackson, Y., Cardenas, M., McCann, R., Waterston, R.
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes; Cyprinidae; Danio.
 Danio rerio
 http://www.researchgenetics.com/
Seg primer: T7 from Gibco
 Email: zbrafish@watson.wustl.edu
cDNA Library Preparation: Ning Wu. cDNA Library Arrayed by: Steve
Johnson. DNA Sequencing by: Washington University Genome Sequencin
Center Clone distribution: Research Genetics web address:
 zebrafish
 BE557132.1
 High quality sequence stop: 447.
 Similarity
 203
 Conservative
 Inote="Vector: pT7T3D-Pac with a modified polylinker: Site_1: EcoRI; Site_2: NotI; 1st strand cDNA was prepared from zebrafish(C3) fin, and was then primed with a Not I coligo(dT) primer. Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacla), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library is non-normalized. Library was constructed by Ning Wu. NOTE: Clones from this library are only available thru Research Genetics (www.resgen.com)." a 88 c 91 g 161 t
 /clone_lib="Zebrafish Research Genetics C32 fin"
/tissue_type="Fin"
/lab_host="GeneHogs (HS996, a phage-resistant isolate of
 /clone="4468054"
 Location/Qualifiers
 /db_xref="taxon:7955"
 ∕organism="Danio rerio"
 83.3%; Score 15; DB
100.0%; Pred. No. 9.
Live 0; Mismatches
 DB 10; I
. 9.1e+02;
thes 0;
 Louis,
 Length 543;
 8
 0;
 Gaps
 Sequencing
 Genome
 0
```

High quality sequence stop:

```
REFERENCE
AUTHORS
TITLE
JOURNAL
 ACCESSION
VERSION
 RESULT 9
BG723264/c
 ş
 ORIGIN
 밁
 BASE COUNT
 FEATURES
 COMMENT
 SOURCE
 DEFINITION
 FEATURES
 (EYWORDS
 Snoo
 Query Match
Best Local S
 ORGANISM
 Matches
 source
 source
 Local Similarity 100.0%;
 18
 3 ttaattcgcgttcct 17
 TTAATTCGCGTTCCT 32
 Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Miklos Palkovits, M.D., Ph.D.
cDNA Library Preparation: Michael J. Brownstein (NHGRI), Shiraki
Toshiyuki and Piero Carninci (RIKEN)
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
 DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at: http://inage.llnl.gov plate: LLAM10732 row: h column: 22 High quality sequence stop: 725.
 Eukaryota: Metazoa: Chordata: Craniata: Vertebrata: Euteleostomi; Mammalia: Eutheria: Primates: Catarrhini; Hominidae; Homo. 1 (bases 1 to 728)
 BG723264
BG723264.1 GI:14002451
EST.
 BG723264 728 bp n
602690884F1 NIH_MGC_97 Homo sapiens
 Contact: Robert Strausberg, Ph.D
 NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
 Homo sapiens
 mRNA sequence
 Unpublished (1999)
 203
 quality sequence stop: Location/Qualifiers
 Conservative
 from zebrafish(C32) fin, and was then primed with a Not I - oligo(dT) primer. Double-stranded cDNA was prepared cONA was prepared primer. Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacla), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library is non-normalized. Library was constructed by Ning Wu. NOTE:Clones from this library are only available thru Research Genetics (www.resgen.com)." a 129 c 114 g 190 t
 /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:4823109"
/clone_lib="NIH_MGC_97"
/lab_host="DH10B"
/note-"Organ: testis; Vector: pBluescriptR (modified pBluescript KS+); Site_1: BamHI; Site_2: SalI-XhoI (gtcgag); Ollgo-dT primed using primer 5: "TTTTTTTTTTTTTVN-3', size-selected for average insert size 2.2 kb and normalized to ROT 5. This is a primary library enriched for full-length clones and constructed using the Cap-trapper method (Carninci, in preparation). Library constructed by M. Brownstein (NIMH/NHGRI, National
 /note="Vector: pT7T3D-Pac with a modified polylinker;
Site_1: EcoRI; Site_2: NotI; 1st strand cDNA was prep
 /organism="Danio rerio"
/db_xref="taxon:7955"
/clone_lib="Zebrafish Research Genetics C32 fin"
/tissue_type="Fin"
 Location/Qualifiers
1. .636
 DH10B
 /lab_host="GeneHogs (HS996, a phage-resistant isolate of
 0
 Score 15;
; Pred. No.
 Mismatches
 DB 10; I
9.4e+02;
thes 0;
 mRNA
 cDNA clone IMAGE: 4823109
 Length 636;
 linear
 Indels
 EST 08-MAY-2001
 0,
 Gaps
 5',
 0
 BASE COUNT
ORIGIN
 RESULT 1
AZ991070
 VERSION
KEYWORDS
 RESULT 1
AG081712
 밁
 ş
 밁
 REFERENCE
 ORIGIN
 BASE COUNT
 FEATURES
 COMMENT
 REFERENCE
 SOURCE
 DEFINITION
 ACCESSION
 COCUS
 Query Match
Best Local
 Matches
 Matches
 ORGANISM
 Query Match
 JOURNAL
 TITLE
 AUTHORS
 TITLE
 AUTHORS
 JOURNAL
 source
 890
 AZ991070
```

```
550 TAATTCGCGTTCCTC 536
 Local Similarity es 15; Conserv
 2 gttaattcgcgttcc 16
 4 taattcgcgttcctc 18
 GTTAATTCGCGTTCC
 l Similarity
15; Conserv
 Submitted (02-AUG-2001) Asao Fujlyama, The Institute of Physical and Chemical Research (RIKEN), Genomic Sciences Center (GSC); 1-7-22 Suehiro-Chou, Tsurumi-Ku, Yokohama, Kanagawa 230-0045, Japan (E-mail:chimpbesegsc.riken.go.jp, URL:http://hgp.gsc.riken.go.jp/, Tel:81-45-503-9111, Fax:81-45-503-9170)
Clones are derived from the chimpanzee BAC library PTB This BAC end was generated during the R&D process and may have higher chance of
 GSS: GSS (genome survey sequence). Pan troglodytes male lymphoblast DNA, BAC Library clone: PTB-078C04.R.
 Pan troglodytes DNA, clone: PTB-078G04.R, AG081712
 Fujiyama,A., Hattori,M., Toyoda,A., Taylor,T.D., Yada,T., Totoki,Y., Watanabe,H. and Sakaki,Y.
Direct Submission
 Fujlyama,A., Hattori,M., Toyoda,A., Taylor,T.D., Yada,T.,
Totoki,Y., Watanabe,H. and Sakaki,Y.
BAC end sequences of Library PTB
 AG081712.1 GI:16633514
 Unpublished
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan.
 Pan troglodytes
 LIBRARY
 PRIMERS
 (bases 1 to 1057)
 (sites)
 126 a
 R.Site 1
R.Site 2
 Conservative
 Conservative
 Sequencing: M13Rev
 Vector
 tracking errors.
 Institutes of Health). Note: this is a NIH_MGC Library." a 224 c 236 g 142 t
 /cell_type="lymphoblast"
/clone_lib="PTB Chimpanzee Male
232 c 383 g 175 t
 /organism="Pan troglodytes"
/db_xref="taxon:9598"
/clone="PTB-078G04.R"
/sex="male"
 Location/Qualifiers
 .1057
 83.3%;
 904
 100.0%;
 : pKS145
: SacI
: SacI.
 83.3%;
 0
 0
 Score 15; DB 12;
Pred. No. 1.1e+0
 Pred. No. 9.8e+02;
 206
 Mismatches
 Mismatches
ģ
 1.1e+03;
DNA
 clone_lib:PTB Chimpanzee Male
 Length 1057;
 BAC Library"
34 others
 Length 728;
 genomic
 Indels
 Indels
 linear
linear
 survey
 GSS 03-NOV-2001
GSS 27-APR-2001
 0;
 0
 Gaps
 sequence.
 0
 0
```

```
SOURCE
ORGANISM
RESULT 12
AZ991080
 REFERENCE
AUTHORS
 밁
 S
 BASE COUNT
ORIGIN
 FEATURES
 COMMENT
 KEYWORDS
 VERSION
 ACCESSION
 DEFINITION
 Matches
 Query Match
 TITLE
 JOURNAL
 source
 115
 Local Similarity 88. es 16; Conservative
 1 cgttaattcgcgttcctc 18
 CGTTAATCCGCCTTCCTC 132
 2M0275N03F Mouse 10kb plasmid UUGC2M library Mus musculus genomic clone UUGC2M0275N03 F, DNA sequence.
A2991070
 Email: ddunn@genetics.utah.edu
Insert Length: 10000 Std Error:
Plate: 0275 row: N column: 03
Seq primer: CGTTGTAAAACGACGGCCAGT
Class: plasmid ends
 Dunn,D., Aoyagi,A., Barber,M., Beacorn,T., Duvai,B., Hamil,C.,
Islam,H., Longacre,S., Mahmoud,M., Meenen,E., Pedersen,T., Reilly,
M., Rose,M., Rose,R., Stokes,R., Tingey,A., von Niederhausern,A.
and Wright,D.,Weiss,R.
 AZ991070.1 GI:13862297 GSS.
 High quality sequence stop: 206
Location/Qualifiers
 University of Utah
University of Utah
 Unpublished (2000)
 plasmid inserts
 Tel: 801 585 5606
Fax: 801 585 7177
 Contact: Robert B.
 Mouse whole genome scaffolding with paired end reads from 10kb
 Mammalia; Eutheria;
1 (bases 1 to 206)
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
 Mus musculus
 house mouse.
 308, Biomedical Polymers Research Bldg., 20 S. 2030 E., SLC, UT
 47
 was hydrodynamically sheared by repeated passage through a 0.005 inch orifice at constant velocity. The sheared DNA was blunt end-repaired with T4 DNA polymerase and T4 polynucleotide kinase. Adaptor oligonucleotides were ligated to the blunt ends in high molar excess. The adaptored DNA was purified and size-selected for a 9.5 to 10.5 kb range using preparative agarose gel electrophoresis. Vector DNA was prepared from a derivative of pNDA2 (gl14732114 [gb]AF129072.1), a copy-number inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adaptored mouse DNA was annealed to adaptored vector DNA, and transformed into chemically-competent E. coli xL10-Gold (Stratagene) cells and selected for ampicillin resistance."
 USA
 /note="Vector: PWD42nv; Purified genomic DNA from M. musculus C57BL/6J (female) was obtained from the Jackson
 Laboratory Mouse DNA Resource
 /db_xref="taxon:10090"
/clone="uuGC2M0275N03"
 /organism="Mus musculus"
/strain="C57BL/6J"
 /sex="Female"
 /clone_lib="Mouse 10kb plasmid UUGC2M library"
 /lab_host="E. coli strain XL10-Gold, T1-resistant, F-"
 82.2%;
 Genome Center
 Weiss
 0;
 Score 14.8; DB 12
Pred. No. 9.2e+02;
 Mismatches
 0.00
 DB 12;
 Length 206;
 Murinae; Mus
 0;
 Gaps
 0;
```

밁

```
SOURCE
ORGANISM
 ACCESSION
VERSION
KEYWORDS
 BASE COUNT
ORIGIN
 COMMENT
 LOCUS
DEFINITION
 FEATURES
 REFERENCE
 Query Match
Best Local Similarity
 AUTHORS
 Matches
 TITLE
 JOURNAL
 source
16;
 Email: ddunn@genetics.utah.edu
Insert Length: 10000 Std Error: 0.00
Plate: 0275 row: P column: 03
Seq primer: CGTTGTAAAACGACGGCCAGT
Class: plasmid ends
High quality sequence stop: 206.
Location/Qualifiers
 Unpublished (2000)
Contact: Robert B. Weiss
University of Utah Genome Center
University of Utah
 Dunn, D., Aoyagi, A., Barber, M., Beacorn, T., Duval, B., Hamil, C., Islam, H., Longacre, S., Mahmoud, M., Meenen, E., Pedersen, T., Reilly, M., Rose, M., Rose, R., Stokes, R., Tingey, A., von Niederhausern, A. and Wright, D., Welss, R.
 AZ991080 206 bp DNA linear GSS 27-APR-200 2M0275P03F Mouse 10kb plasmid UUGC2M library Mus musculus genomic clone UUGC2M0275P03 F, DNA sequence.
 Mouse whole genome scaffolding with paired end reads from 10kb plasmid inserts
 Tel: 801 585 5606
Fax: 801 585 7177
 Mammalia; Eutheria;
1 (bases 1 to 206)
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
 Mus musculus
 AZ991080.1 GI:13862307
 house mouse
 308,
 48 a
 Conservative
 USA
 purified. The sheared, adaptored mouse DNA was annealed to adaptored vector DNA, and transformed into chemically-competent E. coli XLIO-Gold (Stratagene) cells and selected for ampicillin resistance.
 adaptored DNA was purified and size-selected for a 9.5 to 10.5 kb range using preparative agarose gel electrophoresis. Vector DNA was prepared from a derivative of pND42 (gil4732114 gb)AFN29072.1), a copy-number inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and mich should be selected and the selec
 (http://www.jax.org/resources/documents/dnares/). The DNA was hydrodynamically sheared by repeated passage through a 0.005 inch orifice at constant velocity. The sheared DNA was blunt end-repaired with T4 DNA polymerase and T4 polynucleotide kinase. Adaptor oligonucleotides were ligated to the blunt ends in high molar excess. The
 Biomedical Polymers Research Bldg., 20 S. 2030
 musculus C57BL/6J (female) was obtained from the Jackson
 Laboratory Mouse DNA Resource
 /clone_lib="Mouse 10kb plasmid UUGC2M library"
/sex="Female"
 /organism="Mus musculus"
/strain="C57BL/6J"
 /lab_host="E. coli strain XL10-Gold, T1-resistant, /note="Vector: PWD42nv; Purified genomic DNA from i
 /clone="UUGC2M0275P03"
 /db_xref="taxon:10090"
 69 c
 82.2%;
 Score 14.8; DB 12;
Pred. No. 9.2e+02;
0; Mismatches 2;
 Length 206;
 linear GSS 27-APR-2001
 0;
 Ε.
 SLC,
 ဌ
 0
```

```
KEYWORDS
SOURCE
 REFERENCE
AUTHORS
 VERSION
KEYWORDS
SOURCE
 ORIGIN
 В
 Ş
 COMMENT
 DEFINITION
 REFERENCE
 FEATURES
 VERSION
 ACCESSION
 DEFINITION
 BF490378
 RESULT
 ACCESSION
 Query Match
Best Local
 Matches
 ORGANISM
 AUTHORS
 ORGANISM
 JOURNAL
 TITLE
 source
 87
 cgttaattcgcgttcctc
 CTTTAATCCGCGTTCCTC 104
Stapleton, M., Brokstein, P., Hong, L., Agbayani, A., Baxter, E., Berman, B., Carlson, J., Champe, M., Chavez, C., Chew, M., Dorsett, V., Farfan, D., Frise, E., George, R., Gonzalez, M., Guarin, H., Harris, N., Li, P., Liao, G., Miranda, A., Misra, S., Mungall, C.J., Nunoo, J., Pacleb, J.,
 AA785231 303 bp mRNA linear EST 29-JUL-1998 g5h08a1.f1 Aspergillus nidulans 24hr asexual developmental and vegetative cDNA lambda zap library Emericella nidulans cDNA clone g5h08a1 3', mRNA sequence.
 BE490378 Ilinear EST 23-APR-: AT26843.5prime AT Drosophila melanogaster adult testes pCTB7 Drosophila melanogaster cDNA clone AT26843 5 similar to CG7251: FBan0007251 located on: 2L 25F1-25F1;: 04/09/2001, mRNA sequence
 16;
 Contact: Bruce A. Roe, University of Oklahoma, broe@ou.edu Department of Chemistry and Biochemistry Advanced Center for Genome Technology, University of Oklahoma 620 Parrington Oval, Norman, OK 73019, USA 7el: 405 325 4912 Fax: 405 325 7962 Email: broe@ou.edu
 Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.

1 (bases 1 to 388)
 Drosophila melanogaster
 EST
 FBan0007251 located on:
BF490378
BF490378.2 GI:13756100
 We anticipate the future release Genetics Stock Center Seq primer: M13-20
 Unpublished (1998)
Other_ESTs: g5h08al.rl
 An Aspergillus nidulans EST Database
 Kupfer,D., Gray,J., Hausner,J., Lai,H.,
Prade,R. and Roe,B.
 Eurotiales: Trichocomaceae: Emericella 1 (bases 1 to 303)
 Emericella
 AA785231.1
EST.
 fruit fly.
 Eukaryota; Fungi; Ascomycota; Pezizomycotina;
 Emericella nidulans.
 Similarity
 85
 quality sequence stop: 185
 þ
 /clone_lib-"Aspergillus nidulans 24hr asexual
developmental and vegetative cDNA lambda zap library"
/tissue_type="vegetative myceila, asexual structures"
/note-"vector: pBlueScript SK-; Site_1: EcoR; Site_2:
XhOI; 5' end of cDNA cloned into EcoRI site of pBluescript
3' end of cDNA cloned into XhOI site of pBluescript"
90 c 65 g 63 t
 /db_xref="taxon:162425"
/clone="g5h08a1"
 /organism-"Emericella nidulans"
/strain-"FGSC A26"
 ocation/Qualifiers
 nidulans
 GI:2845399
 82.2%;
 18
 0
 Score 14.8;
Pred. No. 16
 Mismatches
 1e+03;
 of the cDNA clones
 DB 9;
 'n
 Martin, W.,
 Length 303;
 Eurotiomycetes;
 mRNA sequence.
 Aramayo, R.
 6
 EST 23-APR-2001
 0
 the Fungal
 0;
```

```
RESULT 15
BE995152/c
 REFERENCE
AUTHORS
TITLE
 KEYWORDS
SOURCE
 ACCESSION
VERSION
 COMMENT
 밁
 ş
 FEATURES
 COMMENT
 ORIGIN
 DEFINITION
 BASE COUNT
 Query Match
Best Local S
Matches 16
 JOURNAL
MEDLINE
 TITLE
 ORGANISM
 JOURNAL
 source
 82 CGTTCATACGCGTTCCTC
 1 cgttaattcgcgttcctc 18
 BE995152 398 bp mRNA 1
UI-M-CGOp-bil-g-02-0-UI.sl NIH_BMAP_Ret4_S2
UI-M-CGOp-bil-g-02-0-UI 3', mRNA sequence.
BE995152
 Email: http://www.fruitfly.org/EST, est@fruitf
hit genomic AE003610: arm:2L [5357975,3614606]
estimated-cyto:25E2-25F4: 04/09/2001
Plate: AT.268 row: D column: 7
High quality sequence stop: 334.
 Paragas, V., Park, S., Phouanenavong, S., Wan, K., Celniker, S. and Rubin, G.M.
BDGP/HHMI AT Drosophila EST Project
Unpublished (2000)
On Dec 6, 2000 this sequence version replaced
 Contact: Chin, H
National Institute of Mental Health
National Institute of Mental Health
The sequence contained an oligo-dT track that was present in the oligonucleotide that was used to prime the synthesis of first strand cDNA and therefore this may represent a bonafide poly A tail. The sequence tag present in the CDNA between the NotI site
 One Cyclotron Rd, Fax: 510 486 6798
 Genome Res. 6 (9),
97044477
 L (bases 1 to 398)
Bonaldo, M.F., Lenno
 Contact: Stapleton,
 Tel: 301 443 1706 Fax: 301 443 9890
 6001 Executive Blvd. 20892-9643, USA
 discovery
 Normalization and subtraction: two
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
 Mus musculus
 Lawrence Berkeley National Lab
One Cyclotron Rd, Berkeley, CA
 Email: mEST@mail.nih.gov
 house mouse
 Similarity
 103
 Conservative
 Ø
 /note-*Organ: ADULT testes; Vector: pOTB7; Site_1: EcoRI; Site_2: XhO1; The mRNA for the test!s library was made from testes and seminal vessicles hand dissected from 0-3 day old Ore-R males. RNA kindly provided by the lab of Margaret Fuller. Sized fractionated cDNAs were directly lighted into pOTB7. Plasmid cDNA library.*
 /dev_stage="0-3 day old Ore-R males"
/lab_host="Plates AT.10-AT.120: DH5-alpha.
AT.121-AT.319: DH5-alpha TonA"
 /organism="Drosophila
/db_xref="taxon:7227"
/clone="AT26843"
 Locati
 /sex="male"
 /clone_lib="AT Drosophila melanogaster adult testes pOTB7"
 82.2%;
88.9%;
 Lennon, G. and Soares, M.B.
 lon/Qualifiers
 99
 791-806 (1996)
 Score 14.8; DB 10
Pred. No. 1.1e+03
 Mismatches
 melanogaster"
 94720,
 MSC
 approaches
 est@fruitfly.berkeley.edu
 10;
 9643,
 Wan, K.,
 Length
 linear
 Bethesda,
 6
 gi:11573689
 Yu, C., Lewis, S.E.,
 musculus
 facilitate
 Plates
 EST 05-OCT-2000
 0;
 Gaps
 0
```

```
Search completed: August 21, 2002, 21:32:27 Job time: 12526 sec
 BASE COUNT
ORIGIN
 FEATURES
 Query Match
Best Local Similarity
Matches 16; Conserv
 source
 1 cgttaattcgcgttcctc 18
|||||||| ||| ||||||||
42 CGTTAATCCGCCTTCCTC 25
 and the oligo-dT track served to identify it as a clone from the retina tissue cDNA Library Preparation: M.B. Soares Lab Clone distribution: Researchers may obtain BMAP cDNA clones from RESEARCH GENETICS. It should be noted that Bento Soares is generating a small number of additional specialized non-redundant arrays of BMAP cDNAs whose availability will be considered under appropriate and limited collaborative arrangements The following repetitive elements were found in this cDNA sequence: 1-22, >AT_richHow_complexity Seq primer: M13 Forward
 Conservative
 /organism="Mus musculus"
/organism="Mus musculus"
/otganism="Mus musculus"
/db_xref="taxon:10900"
/clone="U:M-CGGp-bi!-g-02-0-U!"
/clone="U:M-CGGp-bi!-g-02-0-U!"
/clone="U:M-CGGp-bi!-g-02-0-U!"
/lab_host="DH10B (Life Technologies)"
/lab_host="DH10B (Life Techn
 73
 Location/Qualifiers
1. .398
 82.2%;
88.9%;
 Score 14.8; DB 10;
Pred. No. 1.1e+03;
0; Mismatches 2;
 Length 398;
 Indels
 0;
 Gaps
 0;
```

ş

밁